



Business Disparities in the Maryland Market Area

Prepared for the State of Maryland and the Maryland
Department of Transportation

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About the Project Team

NERA Economic Consulting is a global firm of experts dedicated to applying economic, finance and quantitative principles to complex business and legal challenges. For over half a century, NERA's economists have been creating strategies, studies, reports, expert testimony and policy recommendations for government authorities and the world's leading law firms and corporations. We bring academic rigor, objectivity and real world industry experience to bear on issues arising from competition, regulation, public policy, strategy, finance and litigation.

NERA's clients value our ability to apply and communicate state-of-the-art approaches clearly and convincingly, our commitment to deliver unbiased findings, and our reputation for quality and independence. Our clients rely on the integrity and skills of our unparalleled team of economists and other experts backed by the resources and reliability of one of the world's largest economic consultancies. With its main office in New York City, NERA serves clients from more than 25 offices across North America, Europe and Asia Pacific.

NERA's employment and labor experts advise clients on a wide range of issues both inside and outside the courtroom. We have provided expert testimony on statistical issues both at the class certification phase (on issues of commonality and typicality) and at the liability phase (for class or pattern-and-practice cases). Our experts have extensive experience examining issues of statistical liability in discrimination and other wrongful termination claims. We also provide detailed statistical analyses of workforce composition to identify potential disparities in hiring, layoffs, promotions, pay, and performance assessments, and have conducted studies on labor union issues and on affirmative action programs for historically disadvantaged business enterprises.

NERA Managing Director Dr. Jon Wainwright led the NERA project team for this Study. Dr. Wainwright heads NERA's disparity study practice and is a nationally recognized expert on business discrimination and affirmative action. He has authored books, papers, and numerous research studies on the subject, and has been repeatedly qualified to testify on these and other issues as an expert in state and federal courts. At NERA, Dr. Wainwright directs and conducts economic and statistical studies of discrimination for attorneys, corporations, governments and non-profit organizations. He also directs and conducts research and provides clients with advice on adverse impact and economic damage matters arising from their hiring, performance assessment, compensation, promotion, termination or contracting activities.

About the Project Team

SRB Communications is a State of Maryland certified MBE/WBE led by Dr. Sheila Brooks. SRB, under the leadership of Dr. Sheila Brooks, is an award winning full-service strategic communications agency specializing in multicultural advertising, public relations, media relations and broadcast production. SRB helps clients develop brand identity, positioning and strategies in marketing, outreach, public education and public relations campaigns through integrated media formats in video production, print and digital media. On this project, the SRB team held responsibility for all of the stakeholder and community outreach functions.

CR Dynamics & Associates, Inc. is a City of Baltimore and State of Maryland certified MBE owned by Charles and Patricia Ramos. CR Dynamics is one of the top contact/call centers in the United States, providing services to private industry and government agencies. Over the past ten years, their perceptiveness in delivering critical program management supported with high-tech solutions has become invaluable to their clients. CRD provides a variety of services, including provision of help desk services, inbound travel counseling, order taking, reservations and outbound market research survey work. On this project, CRD provided CATI survey services for both the race/gender misclassification survey and the mail survey non-respondent survey.

1st Choice LLC is a State of Maryland certified MBE/WBE led by Michelle Bell. 1st Choice is an award-winning consulting agency with over 13 years of experience providing administrative support to diverse clients from the public, non-profit and private sectors. 1st Choice is a nationwide leader in providing high quality administrative labor services that are evaluated and cross-referenced with each project's Statement of Work. 1st Choice employees are highly proficient in industry standard information tools and software, and have core competencies across multiple industries. On this project, 1st Choice had responsibility for providing temporary personnel to supplement NERA staff for the data collection and processing tasks in the Disparity Study.

Law Office of Don O'Bannon, P.C. Attorney Don O'Bannon is a principal in the Law Office of Don T. O'Bannon in Dallas, Texas. He is the former Vice President of Business Diversity and Development for DFW International Airport and past chairman of the Airport Minority Advisory Council. Mr. O'Bannon is a past recipient of the M/WBE Advocate of the Year award from the Fort Worth Metropolitan Chamber of Commerce, the Business Advocate of the Year award from the Dallas-Fort Worth Hispanic Contractors' Association, and the Chairman's Award from the Dallas-Fort Worth Black Contractors' Association. On this project, Mr. O'Bannon provided a review of case law, conducted interviews with public sector personnel and with local business owners and co-drafted selected study recommendations.

CVV Transcripts, LLC is a Veterans Administration-verified Service-Disabled-Veteran Owned, and SBA Economically-Disadvantaged-Woman Owned Small Business based in Mesa, Arizona and led by founder Jennifer MacGregor. CVV provides court reporting and transcription of meetings, hearings, conference sessions, interviews, interrogations, depositions and court proceedings for a variety

of government agencies, commercial businesses, small businesses and non-profit organizations. On this project, CVV provided transcription services for all of the business owner and public sector personnel interviews.

J&D Data Services is a small business owned by Mr. Joe Deegan and based in Plano, Texas. After a long career with ScanTron, Mr. Deegan started his own business to offer a solid and proven alternative to the time consuming and expensive job of key data entry long associated with mail surveys. The firm helps its clients conserve their surveying resources by designing and delivering survey instruments that can be electronically and automatically scanned upon return and sent directly to electronic format. J&D Data Services has conducted numerous surveys of M/WBEs and non-M/WBEs on behalf of the NERA team. On this assignment, they provided printing, postage, mail-out and mail-back service for the contract and subcontract data collection, the mail survey and the business owner interviews.

Report Qualifications/Assumptions and Limiting Conditions

This report is for the exclusive use of the State of Maryland (“the State”). There are no third-party beneficiaries with respect to this report, and NERA Economic Consulting does not accept any liability to any third party.

Information furnished by others, upon which all or portions of this report is based, is believed to be reliable but has not been independently verified, unless otherwise expressly indicated. Public information and industry and statistical data, including contracting, subcontracting and procurement data, are from sources we deem to be reliable; however, we make no representation as to the accuracy or completeness of such information.

The opinions expressed in this report are valid only for the purpose stated herein and as of the date of this report. No obligation is assumed to revise this report to reflect changes, events or conditions that occur subsequent to the date hereof.

All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the client.

In portions of this report, NERA has commented on legal issues. NERA’s comments are based on its understanding of relevant law and industry best practice, as informed by legal counsel retained by NERA. However, NERA’s comments are not, and should not be construed as, legal advice to the State. NERA recommends that the State seek and obtain advice from its own legal counsel in connection with its affirmative action programs and with this report.

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Executive Summary

A. Introduction

The State of Maryland and the Maryland Department of Transportation commissioned this Study to evaluate whether minority-owned and women-owned business enterprises (“M/WBEs”) in the State’s geographic and product market area have full and fair opportunities to compete for its prime contracts, purchases and associated subcontracts.

To ensure compliance with constitutional mandates and evaluate M/WBE program best practices, the State of Maryland commissioned NERA Economic Consulting to examine the past and current status of M/WBEs in its market area for contracting and procurement. The results of the Study provide the evidentiary record necessary for the State’s consideration of whether to implement M/WBE policies that comply with the requirements of the courts and to assess the extent to which previous efforts have assisted M/WBEs to compete on a fair basis in the State’s contracting and procurement activity.

This Study finds statistical evidence consistent with the presence of business discrimination against M/WBEs in the private sector of the State of Maryland market area. These findings are presented in Chapters IV and V. Statistical analyses of the State’s own contracting and purchasing, which also document evidence consistent with business discrimination, are contained in Chapters II, III and VI. As a check on our statistical findings, we surveyed the contracting experiences of M/WBEs and non-M/WBEs in the market area and also conducted a series of in-depth personal interviews with business enterprises throughout the market area, both M/WBE and non-M/WBE. Those results, documented in Chapter VII as well are consistent with the presence of business discrimination against M/WBEs in the State of Maryland market area.

B. Legal Standards for Government Affirmative Action Contracting Programs

To be legally defensible, a race-based program must meet the judicial test of constitutional strict scrutiny. Strict scrutiny is the highest level of judicial review and consists of two elements:

- The government must establish its “compelling interest”¹ in remedying race discrimination by showing “a strong basis in evidence”² of the persistence of discrimination. Such evidence may consist of demonstrating that the entity is a ‘passive participant’ in a system of racial exclusion....”³

¹ *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469, 492 (1989) (“*Croson*”).

² *Id.* at 500 (citing *Wygant v. Jackson Board of Education, et al.*, 476 U.S. 267, 277 (1986)).

³ *Id.* at 492.

- Any remedies adopted must be narrowly tailored to that discrimination; that is, “the means chosen to accomplish the government’s asserted purpose are specifically and narrowly framed to accomplish that purpose.”⁴

The compelling interest prong has been met through two types of proof:

- Statistical evidence of “identified discrimination in [the relevant] industry,”⁵ typically established by showing the underutilization of minority-owned firms relative to their availability in the jurisdiction’s market area known as disparity indexes or disparity ratios.⁶
- Anecdotal evidence of race-based barriers to the full and fair participation of minority-owned firms in the market area and in seeking contract opportunities with the government entity.⁷

The narrow tailoring prong has been met through the assessment of several factors:

- Consideration of alternative, race-neutral means to increase M/WBE participation;⁸
- The flexibility of the program requirements, including the availability of waiver provisions;⁹
- The duration of the proposed relief;¹⁰
- The relationship of numerical participation goals to the availability of M/WBEs in the relevant market;¹¹

⁴ *Sherbrooke Turf, Inc. v. Minnesota Dept. of Transp.*, 345 F.3d 964 at 971 (citing *Grutter v. Bollinger*, 539 U.S. 306, 333 (2003)), *cert. denied*, 541 U.S. 1041 (2004).

⁵ *Croson*, 488 U.S. at 505.

⁶ See Wainwright and Holt (2010), pp. 5-6.

⁷ *Concrete Works of Colorado, Inc. v. City and County of Denver*, 36 F.3d 1513, 1520 (10th Cir. 1994) (“*Concrete Works IP*”) (“Personal accounts of actual discrimination or the effects of discriminatory practices may, however, vividly complement empirical evidence. Moreover, anecdotal evidence of a municipality’s institutional practices that exacerbate discriminatory market conditions are often particularly probative. Therefore, the government may include anecdotal evidence in its evidentiary mosaic of past or present discrimination.”). See also *Adarand Constructors, Inc. v. Rodney Slater*, 228 F.3d 1147, 1166 (10th Cir. 2000), *cert. granted*, 532 U.S. 941, *dismissed as improvidently granted*, 534 U.S. 103 (2001) (“*Adarand VIP*”) (“Both statistical and anecdotal evidence are appropriate in the strict scrutiny calculus, although anecdotal evidence by itself is not.”).

⁸ *Croson*, 488 U.S. at 507, citing *United States v. Paradise*, 480 U.S. 149, 171 (1987). See also *Adarand Constructors, Inc. v. Federico Peña*, 515 U.S. 200, 237-238 (1995) (“*Adarand IIP*”).

⁹ *Croson*, 488 U.S. at 507-508 and *Paradise*, 480 U.S. at 171. See also *Adarand VII*.

¹⁰ *Croson*, 488 U.S. at 498, 509-510. See also *Paradise*, 480 U.S. at 171.

¹¹ *Paradise*, 480 U.S. at 171.

- The impact of the relief on third parties;¹² and
- The overinclusiveness or underinclusiveness of the racial classifications.¹³

In *Adarand Constructors v. Federico Peña*, the Court extended the analysis of strict scrutiny to race-based federal enactments such as the federal (“DBE”) Program. Just as in the state and local government context, the national government must have a compelling interest for the use of race, and the remedies adopted must be narrowly tailored to meet that interest.¹⁴

Appendix B provides an overview of constitutional standards and case law and outlines our understanding of the legal and program development issues for the State of Maryland’s consideration in evaluating its MBE Program, with emphasis on critical issues and evidentiary concerns.

C. Defining the Relevant Markets

Chapter II describes how the relevant geographic and product markets were defined for this Study. These definitions were derived empirically, based on the Master Contract/Subcontract Database assembled for the Study. The relevant geographic and product markets were then used to focus and frame the quantitative and qualitative analyses in the remainder of the Study.

The Master Contract/Subcontract Database contains information on 16,931 prime contracts or purchase orders and 35,675 associated subcontracts active during state fiscal years 2010-2014.¹⁵ These contracts and purchases had a total award value of \$22.27 billion and a total paid value of \$13.4 billion (*See* Table 2.1).¹⁶ Contracts and subcontracts in the database were catalogued according to state fiscal year and whether they were for Construction; Architecture & Engineering and Other Construction-Related Services (“AE-CRS”); Maintenance; Information Technology (“IT”); Services; or Commodities, Supplies & Equipment (“CSE”). The firms performing these contracts and subcontracts were catalogued according to geographic location, primary industry, race, and gender.

The Master Contract/Subcontract Database was analyzed to determine the geographic radius around the State of Maryland that accounts for approximately 75 percent of aggregate contract and subcontract spending. The State’s relevant geographic market area was determined to include the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area (*See* Tables 2.5 and 2.6).

¹² *Id.*

¹³ *Crosby*, 488 U.S. at 506.

¹⁴ *Adarand III*, 515 U.S. at 235.

¹⁵ The state fiscal year runs from July 1st through June 30th.

¹⁶ Payments on contracts that were not substantially complete at the time of the Study data collection were excluded from the paid dollar totals.

The Master Contract/Subcontract Database was also analyzed to determine those detailed industry categories that account for at least 99 percent of contract and subcontract spending by the State of Maryland. Overall, we determined that the State of Maryland’s relevant product market includes firms in 259 different North American Industrial Classification System (“NAICS”) Industry Groups and 695 different NAICS Industries (*See* Tables 2.7 through 2.12).

D. M/WBE Availability in the State of Maryland Market Area

Chapter III estimates the percentage of establishments in the State of Maryland’s relevant market area that are owned by minorities or women. For each industry category, M/WBE availability was defined as the number of M/WBEs divided by the total number of business establishments in the relevant contracting market area, weighted by the dollars attributable to each detailed industry. Determining the total number of establishments in the relevant market is more straightforward than determining the number of M/WBE establishments in those markets. The latter task has three main parts: (1) identifying all listed M/WBEs in the relevant market; (2) verifying the ownership status of listed M/WBEs; and (3) estimating the number of unlisted M/WBEs in the relevant market. Table A1 below provides an executive level summary of the current M/WBE availability estimates derived in the Study. Availability estimates for more detailed industries within the major procurement categories appear in Tables 3.16 through 3.21.

Table A1. Overall Estimated M/WBE Availability Percentages in the State of Maryland Market Area

	African American	Hispanic	Asian	Native American	Minority	Non-minority Female	M/WBE	Non-M/WBE
OVERALL								
AWARD DOLLARS	11.61	3.59	5.41	1.04	21.64	14.24	35.89	64.11
PAID DOLLARS	11.18	3.84	4.65	1.03	20.70	14.04	34.75	65.25
CONSTRUCTION								
AWARD DOLLARS	10.66	4.91	2.65	0.77	18.99	13.94	32.93	67.07
PAID DOLLARS	10.26	5.10	2.68	0.79	18.83	13.65	32.48	67.52
AE-CRS								
AWARD DOLLARS	8.61	2.22	4.82	1.22	16.87	12.16	29.02	70.98
PAID DOLLARS	8.46	2.21	4.83	1.23	16.73	11.93	28.66	71.34
MAINTENANCE								
AWARD DOLLARS	13.87	4.78	3.48	1.87	23.99	12.44	36.44	63.56
PAID DOLLARS	16.16	5.42	3.52	2.22	27.33	13.49	40.82	59.18

	African American	Hispanic	Asian	Native American	Minority	Non-minority Female	M/WBE	Non-M/WBE
IT								
AWARD DOLLARS	15.55	3.53	13.01	1.20	33.29	13.26	46.55	53.45
PAID DOLLARS	15.54	3.55	12.67	1.19	32.95	13.43	46.37	53.63
SERVICES								
AWARD DOLLARS	13.52	3.08	5.53	1.06	23.19	17.67	40.86	59.14
PAID DOLLARS	13.92	2.91	4.82	1.15	22.79	18.18	40.97	59.03
CSE								
AWARD DOLLARS	10.50	3.24	6.10	0.85	20.70	13.02	33.71	66.29
PAID DOLLARS	10.78	3.15	6.33	0.83	21.09	13.20	34.29	65.71

Source: Table 3.15.

Notes: (1) “Award” indicates that the availability measures are weighted according to dollars awarded; (2) “Paid” indicates that the availability measures are weighted according to dollars paid; (3) For this Study, “Black” or “African American” refers to an individual having origins in any of the black racial groups of Africa; “Hispanic” refers to an individual of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race; “Asian” refers to an individual having origins in the Far East, Southeast Asia, or the Indian subcontinent; “Native American” or “American Indian” refers to an individual having origins in any of the original peoples of North America but does not include individuals of Eskimo or Aleutian origin. *See Md. Code Ann., State Fin. & Proc. §14-301(k)(1).*

E. Statistical Disparities in Business Formation and Business Owner Earnings

1. Census Bureau’s American Community Survey

Chapter III demonstrates that current M/WBE availability levels in the State of Maryland’s market area are substantially lower in most instances than those that we would expect to observe if commercial markets operated in a race- and gender-neutral manner and that these levels are statistically significant.¹⁷ In other words, minorities and women are substantially and significantly less likely to own their own businesses as the result of discrimination than would be expected based upon their observable characteristics, including age, education, geographic location and industry. We find that these groups also suffer substantial and significant earnings disadvantages relative to comparable nonminority males, whether they work as employees or entrepreneurs.

¹⁷ Typically, for a given disparity statistic to be considered “statistically significant” there must be a substantial probability that the value of that statistic is unlikely to be due to chance alone. *See also fn. 77.*

For example, we found that overall annual average wages for African Americans in 2010-2014 were 37.0 percent lower in the State of Maryland market area than for nonminority males who were otherwise similar in terms of geographic location, industry, age and education (*See* Table 4.1). This difference is large and statistically significant. Large, adverse, and statistically significant wage disparities were also observed for Hispanics (29.5 percent lower), Asians (25.1 percent lower), Native Americans (36.9 percent lower), persons reporting two or more races (29.8 percent lower) and nonminority women (32.8 percent lower). These disparities are consistent with the presence of market-wide discrimination. Comparable results were observed when the analysis was restricted to Construction, AE-CRS, Maintenance, IT, Services, or CSE. That is, large, adverse, and statistically significant wage disparities were observed for all minority groups and for nonminority women throughout the State of Maryland market area.

This analysis demonstrates that minorities and women earn substantially and significantly less than their nonminority male counterparts in the State of Maryland market area. Such disparities are consistent with race and gender discrimination in the labor force that, in addition to its direct effect on workers, also reduces the future availability of M/WBEs by stifling opportunities for minorities and women to progress through those internal labor markets and occupational hierarchies that are most likely to lead to entrepreneurial opportunities. These disparities reflect more than mere “societal discrimination”¹⁸ because they demonstrate the nexus between discrimination in the job market and reduced entrepreneurial opportunities for minorities and women. Other things equal, these reduced entrepreneurial opportunities in turn lead to lower M/WBE availability levels than would be observed in a race- and gender-neutral market area.

Next, we analyzed race and gender disparities in business owner earnings. We found, for example, that overall annual earnings for self-employed African Americans in 2010–2014 were 41.8 percent lower in the State of Maryland market area than for nonminority males who were otherwise similar in terms of geographic location, industry, age and education (*See* Table 4.8). This difference is large and statistically significant. Large, adverse, and statistically significant wage disparities were also observed for Hispanics (23.4 percent lower), Asians (8.1 percent lower), Native Americans (43.8 percent lower), persons reporting two or more races (37.1 percent lower) and nonminority women (39.1 percent lower). These disparities are consistent with the presence of market-wide discrimination. Similar results were observed when the analysis was restricted to the Construction, AE-CRS, Maintenance, IT, Services, or CSE sectors.

As was the case for wage and salary earners, minority and female entrepreneurs earned substantially and significantly less from their efforts than similarly situated nonminority male entrepreneurs. These disparities are a symptom of discrimination in commercial markets that directly and adversely affect M/WBEs. Other things equal, if minorities and women cannot earn remuneration from their entrepreneurial efforts comparable to that of nonminority males, growth rates will slow, business failure rates will increase, and business formation rates may decrease. Combined, these phenomena result in lower M/WBE availability levels than would otherwise be observed in a race- and gender-neutral market area.

¹⁸ *Crosby*, 488 U.S. at 485.

Next, we analyzed race and gender disparities in business formation (*See* Tables 4.15 to 4.23). As with earnings, in most cases we observed large, adverse, and statistically significant disparities consistent with the presence of discrimination in these markets in the overall economy, and in the Construction, AE-CRS, Maintenance, IT, Services, or CSE sectors. In the overall economy (*See* Table 4.17), business formation rates for African Americans were 2.4 percentage points lower than for comparable nonminority males. Large, adverse, and statistically significant reductions in business formation were also observed for Hispanics (1.4 percentage points lower), Native Americans (2.8 percentage points lower), persons reporting two or more races (1.4 percentage points lower) and nonminority women (1.2 percentage points lower).

2. Census Bureau’s Survey of Business Owners

As a further check on the statistical findings in this chapter, we examined evidence from the Census Bureau’s *Survey of Business Owners and Self-Employed Persons* (SBO) (*See* Tables 4.25 to 4.30). The size of the disparities facing minority-owned and women-owned firms in the State of Maryland market area is very large. For example, although 19.5 percent of all firms in the market area are owned by African Americans, these firms earned less than 4.1 percent of all sales and receipts. Hispanic-owned firms are 8.4 percent of all firms in the market area, yet they earned only 3.0 percent of all sales and receipts. Asian-owned firms are 10.0 percent of all firms in the market area, but earned only 8.3 percent of sales and receipts. Native American-owned firms are 0.1 percent of all firms in the market area, but earned only 0.02 percent of sales and receipts. Women-owned firms are 39.2 percent of all firms in the market area, but these firms earned only 13.9 percent of sales and receipts. Overall, these data show large, adverse, and statistically significant disparities between M/WBEs’ share of overall revenues and their share of overall firms in both the U.S. as a whole, and in the State of Maryland market area in particular.

F. Statistical Disparities in Credit/Capital Markets

In Chapter V, we analyzed the most recent as well as earlier data from the Survey of Small Business Finances (“SSBF”) conducted by the Federal Reserve Board and the U.S. Small Business Administration. We also analyzed data from nine customized matching mail surveys NERA conducted throughout the nation since 1999. Additionally, we reviewed the most current research being conducted in this area, using data from the Kauffman Firm Survey, audit studies, and other sources. These data, in general, examine whether discrimination exists in the small business credit market.

Credit market discrimination can have an important effect on the likelihood that M/WBEs will succeed. Moreover, discrimination in the credit market might even prevent such businesses from opening in the first place. This analysis has been held by some courts to be probative of a public entity’s compelling interest in remedying discrimination.¹⁹ We provide qualitative and quantitative evidence supporting the view that M/WBE firms, and most acutely African American-owned firms, suffer discrimination in this market.

¹⁹ *See, e.g., Northern Contracting, Inc. v. Illinois Department of Transportation*, No. 00-C-4515, 2005 WL 2230195 (N.D. Ill. Sept. 8, 2005); *Concrete Works of Colorado v. City and County of Denver*, 321 F.3d 950, *cert. denied*, (10th Cir. 2003).

The analyses in Chapter V employ data from a variety of sources. First and foremost are data from the Federal Reserve Board for the key years of 1993, 1998 and 2003, as these are the primary years of availability for this most important data source of small business finance by race and gender. Next, in addition to the 1993, 1998 and 2003 Federal Reserve data, Chapter V also analyzes similar datasets collected through NERA's own surveys conducted in 1999 and 2007 and mirroring the relevant sections of the earlier Federal Reserve Board surveys. Results from the NERA credit surveys are consistent with the results obtained from the 1993-2003 Federal Reserve Board data. Finally, Chapter V provides an overview of the most recent available research on commercial credit market discrimination, spanning the time period from 2008 forward. Most of this review focuses on analyses using data from the Kauffman Firm Survey, the largest and longest longitudinal survey of new businesses in the world. Analyses of the Kauffman data are consistent with those obtained from the 1993-2003 Federal Reserve Board data and the 1999-2007 NERA credit survey data.

Taken as a whole, these data provide qualitative and quantitative evidence consistent with the presence of discrimination against minorities in the credit market for small businesses. For example, we find that African American-owned firms are much more likely to report being seriously concerned with credit market problems and report being less likely to apply for credit because they fear the loan would be denied. Moreover, after controlling for a large number of characteristics of the firms, we find that African American-owned firms, Hispanic-owned firms, and to a lesser extent other minority-owned firms, are substantially and statistically significantly more likely to be denied credit than are nonminority-owned firms. We find some evidence that women are discriminated against in this market as well. The principal results are as follows:

- Minority-owned firms were more likely to report that they did not apply for a loan over the preceding three years because they feared the loan would be denied (*see* Tables 5.15, 5.22, 5.29);
- When minority-owned firms applied for a loan, their loan requests were substantially more likely to be denied than non-minorities, even after accounting for differences like firm size and credit history (*see* Tables 5.8, 5.9, 5.18, 5.19, 5.25, 5.26);
- When minority-owned firms *did* receive a loan, they were obligated to pay higher interest rates on the loans than comparable nonminority-owned firms (*see* Tables 5.13, 5.14, 5.21, 5.27);
- A larger proportion of minority-owned firms than nonminority-owned firms report that credit market conditions are a serious concern (*see* Tables 5.3, 5.4, 5.5, 5.6, 5.7, 5.17, 5.24);
- A larger share of minority-owned firms than nonminority-owned firms believes that the availability of credit is the most important issue likely to confront them in the upcoming year (*see* Tables 5.5, 5.6);

- There is no evidence that discrimination in the market for credit is significantly different in the South Atlantic census division²⁰ or in the construction and construction-related professional services industries than it is in the nation or the economy as a whole (Chapter V, various tables);
- There is no evidence that the level of discrimination in the market for credit has diminished between 1993 and 2003 (Chapter V, various tables);
- Evidence from NERA's own 1999-2007 credit surveys, which contained questions similar to the relevant portions of the SSBF, is fully consistent with the findings drawn from the earlier SSBF data (Tables 5.30, 5.31); and
- Post-2007 evidence from non-SSBF sources, particularly the Kauffman Firm Survey, yield results that are fully consistent with those drawn from the earlier SSBF data (*see* Chapter V, Section L).

We conclude that there is evidence of discrimination against M/WBEs in the State of Maryland market area in the small business credit market. This discrimination is particularly acute for African American-owned small businesses where, even after adjusting for differences in assets, liabilities, and creditworthiness, the loan denial rates remain substantially higher than for nonminority male-owned small businesses.

G. Public Sector Utilization vs. Availability in State of Maryland Contracting and Purchasing Markets

Chapter VI analyzes the extent to which M/WBEs were utilized on contracts active at the State of Maryland during state fiscal years 2010-2014 and compares this utilization rate to the availability of M/WBEs in the relevant market area. Tables B1 and B2 provide an executive summary of the utilization findings for the Study by industry category and M/WBE type. Table B1 shows M/WBE and non-M/WBE utilization measured by dollars awarded for all contracts and purchases examined during the study period. Table B2 shows comparable M/WBE and non-M/WBE utilization measured by dollars paid.

²⁰ This division includes Maryland as well as Delaware, Florida, Georgia, North Carolina, South Carolina, Virginia, West Virginia and the District of Columbia.

Table B1. M/WBE Utilization in Contracting at the State of Maryland—All Contracts (Dollars Awarded)

M/WBE Type	Procurement Category						
	Construction (%)	AE-CRS (%)	Maintenance (%)	IT (%)	Services (%)	CSE (%)	Overall (%)
African American	5.20	4.59	4.53	5.12	6.93	0.91	5.14
Hispanic	4.33	1.51	1.48	6.45	0.71	0.83	2.74
Asian	2.60	14.91	0.80	16.71	0.79	2.40	4.65
Native American	0.43	0.06	0.05	0.10	0.01	0.04	0.19
Minority Total	12.55	21.07	6.86	28.39	8.44	4.18	12.72
Nonminority female	7.43	7.51	7.91	6.08	3.31	2.94	5.85
M/WBE Total	19.98	28.58	14.78	34.47	11.75	7.12	18.57
Non-M/WBE Total	80.02	71.42	85.22	65.53	88.25	92.88	81.43
Total (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total (\$)	8,422,190,102	2,544,538,584	1,427,160,377	1,977,040,832	5,853,224,032	2,048,499,182	22,272,653,109
Prime Contracts	1,900	691	1,456	1,291	2,154	9,439	16,931
Subcontracts	25,030	2,539	2,246	690	3,761	1,409	35,675

Source and Notes: Table 6.1.

Table B2. M/WBE Utilization in Contracting at the State of Maryland—All Contracts (Dollars Paid)

M/WBE Type	Procurement Category						
	Construction (%)	AE-CRS (%)	Maintenance (%)	IT (%)	Services (%)	CSE (%)	Overall (%)
African American	5.05	4.53	6.81	6.54	7.10	0.99	4.99
Hispanic	3.79	1.47	3.00	9.97	1.25	1.00	3.02
Asian	2.44	15.55	1.34	20.52	0.34	2.44	4.45
Native American	0.38	0.06	0.03	0.00	0.02	0.05	0.21
Minority Total	11.66	21.61	11.18	37.03	8.70	4.47	12.66
Nonminority female	7.49	7.38	7.15	4.64	2.49	2.79	5.84
M/WBE Total	19.15	28.99	18.33	41.67	11.19	7.26	18.51
Non-M/WBE Total	80.85	71.01	81.67	58.33	88.81	92.74	81.49
Total (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total (\$)	6,767,135,431	1,536,406,206	356,061,208	682,925,936	2,440,087,984	1,631,017,251	13,413,634,017
Prime Contracts	1,666	691	1,324	1,191	1,971	9,439	16,282
Subcontracts	22,064	2,539	1,271	410	2,310	1,409	30,003

Source: Table 6.2.

Additionally, we compared the utilization of M/WBEs on contracts with M/WBE goals to contracts where no M/WBE goals were established. We found that when all procurement categories are combined, M/WBE utilization is greater on contracts for which M/WBE goals were established. This is true for African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group. These differences are statistically significant as well, meaning that it is unlikely the differences can be attributed to chance variation alone. With only a few exceptions, this phenomenon was observed in each procurement category as well (*See Table 6.3*).

Finally, in Chapter VI, we compared the use of M/WBEs on all State of Maryland contracts and subcontracts from the study period to our measure of M/WBE availability in the relevant market area. If M/WBE utilization is lower than measured availability in a given category, we report this result as a disparity.

Table C1, on the following page, provides a top-level summary of our disparity findings for the Study for each major procurement category using dollars awarded. Table C2 provides comparable results using dollars paid.

Table C1. Utilization, Availability and Disparity Results for State of Maryland Contracting, Overall and by Contracting Category–All Contracts (Dollars Awarded)

Contracting Category & M/WBE Type	Utilization	Availability	Disparity Ratio
OVERALL			
African American	5.14	11.61	44.3 ****
Hispanic	2.74	3.59	76.2
Asian	4.65	5.41	86.0
Native American	0.19	1.04	18.2 ****
Minority-owned	12.72	21.64	58.8 ****
Nonminority female	5.85	14.24	41.1 ****
M/WBE total	18.57	35.89	51.7 ****
CONSTRUCTION			
African American	5.20	10.66	48.7 ****
Hispanic	4.33	4.91	88.2
Asian	2.60	2.65	97.9
Native American	0.43	0.77	56.0
Minority-owned	12.55	18.99	66.1 ****
Nonminority female	7.43	13.94	53.3 ****
M/WBE total	19.98	32.93	60.7 ****
AE-CRS			
African American	4.59	8.61	53.3 ****
Hispanic	1.51	2.22	68.0
Asian	14.91	4.82	
Native American	0.06	1.22	4.8 ****
Minority-owned	21.07	16.87	
Nonminority female	7.51	12.16	61.8 ****
M/WBE total	28.58	29.02	98.5

Contracting Category & M/WBE Type	Utilization	Availability	Disparity Ratio
MAINTENANCE			
African American	4.53	13.87	32.7 ****
Hispanic	1.48	4.78	31.0 ****
Asian	0.80	3.48	23.0 ****
Native American	0.05	1.87	2.6 ****
Minority-owned	6.86	23.99	28.6 ****
Nonminority female	7.91	12.44	63.6 ****
M/WBE total	14.78	36.44	40.6 ****
IT			
African American	5.12	15.55	32.9 ****
Hispanic	6.45	3.53	
Asian	16.71	13.01	
Native American	0.10	1.20	8.6 ****
Minority-owned	28.39	33.29	85.3 **
Nonminority female	6.08	13.26	45.9 ****
M/WBE total	34.47	46.55	74.0 ****
SERVICES			
African American	6.93	13.52	51.3 ****
Hispanic	0.71	3.08	23.1 ****
Asian	0.79	5.53	14.3 ****
Native American	0.01	1.06	1.0 ****
Minority-owned	8.44	23.19	36.4 ****
Nonminority female	3.31	17.67	18.7 ****
M/WBE total	11.75	40.86	28.7 ****
CSE			
African American	0.91	10.50	8.7 ****
Hispanic	0.83	3.24	25.6 ****
Asian	2.40	6.10	39.4 ****
Native American	0.04	0.85	4.3 ****
Minority-owned	4.18	20.70	20.2 ****
Nonminority female	2.94	13.02	22.6 ****
M/WBE total	7.12	33.71	21.1 ****

Source: Table 6.4.

Notes: (1) "*" indicates an adverse disparity that is statistically significant at the 15% level or better (85% confidence). "***" indicates an adverse disparity that is statistically significant at the 10% level or better (90% confidence). "****" indicates the disparity is significant at a 5% level or better (95% confidence). "*****" indicates significance at a 1% level or better (99% confidence). (2) An empty cell in the Disparity Ratio column indicates that no adverse disparity was observed for that category.

Table C2. Utilization, Availability and Disparity Results for State of Maryland Contracting, Overall and by Contracting Category–All Contracts (Dollars Paid)

Contracting Category & M/WBE Type	Utilization	Availability	Disparity Ratio
OVERALL			
African American	4.99	11.18	44.6 ****
Hispanic	3.02	3.84	78.5
Asian	4.45	4.65	95.6
Native American	0.21	1.03	20.5 ****
Minority-owned	12.66	20.70	61.2 ****
Nonminority female	5.84	14.04	41.6 ****
M/WBE total	18.51	34.75	53.3 ****
CONSTRUCTION			
African American	5.05	10.26	49.2 ****
Hispanic	3.79	5.10	74.3 **
Asian	2.44	2.68	90.7
Native American	0.38	0.79	48.8 ***
Minority-owned	11.66	18.83	61.9 ****
Nonminority female	7.49	13.65	54.9 ****
M/WBE total	19.15	32.48	59.0 ****
AE-CRS			
African American	4.53	8.46	53.5 ****
Hispanic	1.47	2.21	66.5 *
Asian	15.55	4.83	
Native American	0.06	1.23	4.7 ****
Minority-owned	21.61	16.73	
Nonminority female	7.38	11.93	61.9 ****
M/WBE total	28.99	28.66	
MAINTENANCE			
African American	6.81	16.16	42.1 ****
Hispanic	3.00	5.42	55.4 ****
Asian	1.34	3.52	37.9 ****
Native American	0.03	2.22	1.4 ****
Minority-owned	11.18	27.33	40.9 ****
Nonminority female	7.15	13.49	53.0 ****
M/WBE total	18.33	40.82	44.9 ****
IT			
African American	6.54	15.54	42.1 ****
Hispanic	9.97	3.55	
Asian	20.52	12.67	
Native American	0.00	1.19	0.0 ****
Minority-owned	37.03	32.95	
Nonminority female	4.64	13.43	34.5 ****
M/WBE total	41.67	46.37	89.8 **

Contracting Category & M/WBE Type	Utilization	Availability	Disparity Ratio
SERVICES			
African American	7.10	13.92	51.0 ****
Hispanic	1.25	2.91	42.9 ****
Asian	0.34	4.82	7.0 ****
Native American	0.02	1.15	1.5 ****
Minority-owned	8.70	22.79	38.2 ****
Nonminority female	2.49	18.18	13.7 ****
M/WBE total	11.19	40.97	27.3 ****
CSE			
African American	0.99	10.78	9.2 ****
Hispanic	1.00	3.15	31.7 ****
Asian	2.44	6.33	38.5 ****
Native American	0.05	0.83	5.5 ****
Minority-owned	4.47	21.09	21.2 ****
Nonminority female	2.79	13.20	21.1 ****
M/WBE total	7.26	34.29	21.2 ****

Source: Table 6.5.

H. Anecdotal Evidence

Chapter VII presents the results of a large-scale mail survey we conducted of M/WBEs and non-M/WBEs about their experiences and difficulties in obtaining contracts. The survey quantified and compared anecdotal evidence on the experiences of M/WBEs and non-M/WBEs as a method to examine whether any differences might be consistent with past or present discrimination.

We found that M/WBEs that have been hired in the past by non-M/WBE prime contractors to work on public sector contracts with M/WBE goals are rarely hired—or even solicited—by these prime contractors to work on projects without M/WBE goals. The relative lack of M/WBE hiring and, moreover, the relative lack of solicitation of M/WBEs in the absence of affirmative efforts by the State of Maryland and other public entities in the market area show that business discrimination continues to fetter M/WBE business opportunities in the relevant markets (*See* Tables 7.9 and 7.10).

We found that M/WBEs in the relevant market area report suffering business-related discrimination in large numbers and with statistically significantly greater frequency than non-M/WBEs. Moreover, we found that these differences remain statistically significant even when firm size and other “capacity”-related owner characteristics are held constant. Large disparities were observed in every category, including applying for surety bonds, applying for commercial loans, obtaining price quotes from suppliers, hiring workers from union hiring halls, having to do inappropriate or extra work not required of comparable non-M/WBEs, applying for commercial or professional insurance, working or attempting to work on private sector prime contracts, working or attempting to work on private sector subcontracts, functioning without hindrance or harassment on the work site, joining or dealing with trade associations, working or attempting to work on public sector subcontracts and prime contracts, and receiving timely payment for work

performed. The incidence of reported disparate treatment for M/WBEs in these cases ranged between 200 percent and 2300 percent higher than for non-M/WBEs. (*See* Tables 7.3–7.6).

We also found that M/WBEs in these markets are more likely than similarly situated non-M/WBEs to report that specific aspects of the regular business environment make it harder or impossible for them to conduct business, and less likely than similarly situated non-M/WBEs to report that specific aspects of the regular business environment make it easier for them to conduct business. In particular, bonding requirements, insurance requirements, previous experience requirements, the cost of bidding or proposing, large project sizes, the price of supplies or materials, late notice of bid/proposal deadlines, and prior dealings with project owners were all found to be statistically significantly more problematic for M/WBEs than non-M/WBEs—even when holding firm size and other “capacity”-related owner characteristics constant (*See* Tables 7.7 and 7.8).

Chapter VII also presents the results from a series of in-depth personal interviews conducted with almost 200 M/WBE and non-M/WBE business owners and representatives from the State of Maryland’s market area. Similar to the survey responses, the interviews strongly suggest that minorities and women continue to suffer discriminatory barriers to full and fair access to State of Maryland, other public sector, and private sector contracts. Participants reported negative perceptions of M/WBE competence and qualifications; being held to higher performance standards than for non-M/WBEs; harassment at the workplace/jobsite; abuses by primes of the payment process, and in the compliance process; exclusion from industry networks; discrimination in access to commercial loans, surety bonds, and commercial/professional insurance; difficulties in obtaining work on public sector projects; and difficulties obtaining work on private sector or “non-goals” projects.

We conclude that the statistical evidence presented in this report is consistent with these anecdotal accounts of contemporary business discrimination. The results of the surveys and the personal interviews are the types of anecdotal evidence that, especially in conjunction with the Study’s extensive statistical evidence, the courts have found to be highly probative of whether, without affirmative interventions, the State of Maryland would be a passive participant in a discriminatory local market area.

I. The State of Maryland’s Minority Business Enterprise Program: Overview and Feedback Interviews

Chapter VIII provides an overview of the State of Maryland’s current MBE Program, an overview of its wide variety of race- and gender-neutral policies and practices, and a summary of business owner experiences with the Program that we obtained from our interviews. We interviewed almost 200 business owners and representatives, as well as 31 State MBE Liaisons senior procurement officers, and personnel from the Office of Minority Business Enterprise and from the Governor’s Office of Minority Affairs to solicit their feedback regarding the State’s policies in this area. Our interviews covered the following subjects:

- The Significance of the State of Maryland MBE Program;

- eMaryland Marketplace;
- Certification Standards and Processes;
- Pre-award Processes: Meeting M/WBE goals;
- Pre-award Processes: Contract Solicitations;
- Contract Performance: Monitoring;
- Contract Performance: Payment;
- Contract Performance: Liquidated Damages;
- Contract Performance: Small Business Reserve;
- Contract Performance: Retainage; and
- Contract Performance: Front companies and Pass Throughs.

J. Suggested Best Practices for The State of Maryland MBE Program

Finally, in Chapter IX we present our suggestions for revised contracting policies and procedures based upon the Study's results and findings and upon our views on best practices for contracting diversity programs.

1. Continuing and Augmenting Race- and Gender-Neutral Initiatives

- Expanding Small Business Programs;
- Increasing Contract Unbundling;
- Reviewing Surety Bonding, Insurance, and Experience Requirements;
- Ensuring Prompt Payments;
- Collecting Bid Data and Pricing Information for Subcontractor Quotations;
- Utilizing Technology; and
- Facilitating Increased Access to Capital.

2. Implementing Race- and Gender-Conscious Remedies

- Increasing Certification Outreach;
- Setting Overall, Aspirational MBE Goals for Annual State Spending;

- Setting Contract-Specific Goals;
- Counting MBE Prime Contractor Participation Towards Meeting Contract Goals
- Counting Lower Tier MBE Utilization;
- Using Control Contracts;
- Reviewing Contract Award Procedures: Scrutinizing MBEs' Commercially Useful Function;
- Reviewing Contract Award Procedures: Standardizing and Disseminating Good Faith Efforts Policies and Procedures;
- Reviewing Contract Award Procedures: Developing Standard Contractual Terms and Conditions for Program Enforcement;
- Monitoring Contract Performance;
- Enhancing Program Administration;
- Implementing a Mentor-Protégé Program;
- Developing Performance Measures for Program Success;
- Releasing Retainage; and
- Periodically Reviewing the Program.

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I. Introduction

The State of Maryland and the Maryland Department of Transportation commissioned this Study to evaluate whether minority-owned and women-owned business enterprises (“M/WBEs”) in the State’s geographic and product market area have full and fair opportunities to compete for its prime contracts, purchases and associated subcontracts. To ensure compliance with constitutional mandates and evaluate M/WBE program best practices, the State commissioned NERA Economic Consulting to examine the past and current status of M/WBEs in its market area for contracting and procurement.

This Study finds statistical evidence consistent with the presence of business discrimination against M/WBEs in the private sector of the State of Maryland market area. These findings are presented in Chapters IV and V. Statistical analyses of the State’s own contracting and purchasing, which also document evidence consistent with business discrimination, are contained in Chapters II, III and VI. As a check on our statistical findings, documented in Chapter VII, we surveyed the contracting experiences of M/WBEs and non-M/WBEs in the market area and also conducted a series of in-depth personal interviews with business enterprises throughout the market area, both M/WBE and non-M/WBE. The results as well are consistent with the presence of business discrimination against M/WBEs in the State of Maryland market area.

As will be documented in this Study, during state fiscal years 2010-2014 the State of Maryland has been a significant source of demand in the regional economy for the products and services provided by M/WBEs—demand that, in general, is found to be lacking in the private sector of the Maryland economy and the surrounding region.

As documented below in Chapter VI, the State’s prior efforts have produced positive results—MBEs earned almost 19 percent of the State’s overall contracting and subcontracting payments on contracts active during the study period. Strict scrutiny requires a “strong basis in evidence”²¹ for concluding that discrimination persists and “narrowly tailored”²² measures to address that discrimination. These principles guide and inform our work for the State of Maryland in this Study.

The results of the Study provide the evidentiary record necessary for the State’s consideration of whether to implement M/WBE policies that comply with the requirements of the courts and to assess the extent to which previous efforts have assisted M/WBEs to compete on a fair basis in the State’s contracting and procurement activity.

The Study is presented in nine chapters, and is designed to answer the following questions:

Chapter I: Introduction

²¹ *Croson* at 500 (citing *Wygant v. Jackson Board of Education*, 476 U.S. 267, 277 (1986)).

²² *Id.* at 506-508. *See also*, *Wygant*, 476 U.S. at 274.

- Chapter II: What is the relevant geographic market for the State of Maryland and how is it defined? What are the relevant product markets for the State of Maryland and how are they defined?
- Chapter III: What percentage of all businesses in the State of Maryland's market area are owned by minorities and/or women? How are these availability estimates constructed?
- Chapter IV: Do minority and/or female wage and salary earners earn less than similarly situated nonminority males? Do minority and/or female business owners earn less from their businesses than similarly situated nonminority males? Are minorities and/or women in the State of Maryland's market area less likely to be self-employed than similarly situated nonminority males? How do the findings in the State of Maryland's market area differ from the national findings on these questions? How have these findings changed over time?
- Chapter V: Do minorities and/or women face discrimination in the market for commercial capital and credit compared to similarly situated nonminority males? How, if at all, do findings locally differ from findings nationally?
- Chapter VI: To what extent have MBEs been utilized by the State of Maryland on contracts and purchases active during the study period, and how does this utilization compare to the availability of M/WBEs in the relevant market area?
- Chapter VII: How many MBEs experienced disparate treatment in the study period? What types of discriminatory experiences are most frequently encountered by M/WBEs? How do the experiences of M/WBEs differ from those of similar non-M/WBEs regarding difficulties in obtaining prime contracts and subcontracts?
- Chapter VIII: What general policies and procedures govern the State of Maryland's MBE Program? What were some of the most frequently encountered comments from M/WBEs and non-M/WBEs concerning the State's contracting affirmative action programs?

In assessing these questions, we present in Chapters II through VII a series of quantitative and qualitative analyses that compare minority and/or female outcomes to nonminority male outcomes in all of these business-related areas. The Executive Summary, above, provides a brief overview of our key findings and conclusions. Finally, Chapter IX contains our findings regarding MBE program best practices applicable to the State of Maryland.

II. Defining the Relevant Markets

A. Preparing the Master Contract/Subcontract Database

1. Overview

In the *Croscon* decision, the Supreme Court indicated that the *national* findings by Congress of minority business discrimination in construction and related industries were not specific or exacting enough, standing alone, to support an MBE program in the City of Richmond. For this reason, the first step in our evaluation of M/WBE availability and participation for the State of Maryland is to define the relevant market area for its contracting and procurement activity. Markets have both a geographic dimension and a product, or industry, dimension.²³ Both aspects of market definition are considered in this chapter. For this Study, we define the relevant geographic market area based on the State of Maryland's historical contracting and subcontracting records. This market dimension is determined empirically by examining the zip code distribution of utilized contractors and subcontractors.

It is also important to be exacting in determining product markets. The extent of disparity may differ from industry to industry just as it does among geographic locations.²⁴ Documenting the specific industries that comprise the State of Maryland's contracting activities and the relative importance of each to contract and subcontract spending is important because it allows for: (1) implementation of precise availability estimation methods, (2) more narrowly tailored contract-level goal-setting, and (3) overall M/WBE availability estimates that are a weighted average of underlying industry-level availability estimates, rather than a simple average, resulting in more narrowly tailored annual goals. The weights used are the proportion of dollars awarded or paid within each industry and allow the overall availability measure to be influenced more heavily by availability in those industries where more contracting dollars are spent, and less heavily by availability in those industries where relatively fewer contracting dollars are spent.

We define the product market dimension by estimating which North American Industrial Classification System (NAICS) codes best describe each identifiable contractor, subcontractor, subconsultant, or supplier in those records.²⁵ In both cases, the definitions are weighted according to how many dollars were spent with firms from each zip code or NAICS code, respectively, so that locations and industries, respectively, receiving relatively more contracting dollars receive relatively more weight in the estimation of M/WBE availability. Once the geographic and industry parameters of the State of Maryland's market area have been defined, we can restrict our subsequent analyses to business enterprises and other phenomena within this

²³ See, e.g., Areeda, P., L. Kaplow, and A. Edlin (2013).

²⁴ See Wainwright (2000), documenting that, in general, the similarities in the amount of discrimination present in different industries and geographic locations significantly outweigh the differences.

²⁵ Executive Office of the President, Office of Management and Budget (2012).

market area. Restricting our analyses in this manner narrowly tailors our findings to the State of Maryland's specific market area and contracting circumstances.

2. State of Maryland Contracting and Purchasing

More than 80 state agencies, public universities and colleges are subject to the State of Maryland's MBE provisions.²⁶ These units of government vary greatly, however, in the overall size of their annual contract and procurement spending. With assistance from the State, NERA identified the 27 largest units that, collectively, account for approximately 95 percent of all relevant State contract and procurement spending²⁷ for inclusion in the Study.²⁸ These agencies are:

- Maryland Department of Transportation – State Highway Administration
- Maryland Department of Transportation – Maryland Transit Administration
- Maryland Department of Transportation – Maryland Aviation Administration
- Maryland Department of Transportation – Motor Vehicle Administration
- Maryland Department of Transportation – Maryland Port Administration
- Maryland Department of Transportation – The Secretary's Office
- Maryland Transportation Authority
- Department of Health & Mental Hygiene
- University System of Maryland – Towson University
- University System of Maryland – University of Baltimore
- University System of Maryland – University of Maryland, Baltimore
- University System of Maryland – University of Maryland, Baltimore County
- University System of Maryland – University of Maryland, College Park
- University System of Maryland – University of Maryland, University College
- Department of Human Resources
- Public School Construction Program
- The Department of Public Safety & Correctional Services
- Department of Juvenile Services
- Department of Information Technology
- Maryland State Department of Education
- Department of General Services
- Department of the Environment
- Maryland Environmental Service
- Maryland State Lottery Agency
- Department of State Police
- Morgan State University
- Department of Budget & Management

²⁶ Appendix C provides a list of all active state agencies, public universities and colleges that are subject to Title 14, Subtitle 3 of the State Finance and Procurement Article. Certain agencies are exempt from State procurement laws for specific purchases or specific situations. A comprehensive list of these exemptions can be found in Maryland Department of Legislative Services, Office of Policy Analysis (2014), pp. 16-20.

²⁷ We examined spending in State of Maryland Expenditure Object Codes 07 (Motor Vehicle Operation and Maintenance), 08 (Contractual Services), 09 (Supplies and Materials), 10 (Equipment Replacement), 11 (Equipment Additional), and 14 (Land, Building & Structures).

²⁸ In identifying these units, we examined spending for state fiscal years 2011-2013. Data for 2014 had not yet been released when this determination was made.

The State then provided NERA with prime contract and purchase order award and payment records (“prime contracts”) for these 27 agencies, covering state fiscal years 2010-2014.²⁹ These data were retrieved, in most cases, from the State’s Financial Management Information System (“FMIS”). The Maryland Department of Transportation (“MDOT”) has its own version of FMIS that was used to retrieve MDOT’s prime contracts. Similarly, prime contracts for the University System of Maryland entities were extracted from their own internal financial management information systems. In the case of the Interagency Committee on Public School Construction (“IACPSC”), data was also retrieved from the financial management information systems of the County Public Schools that received funding through the IACPSC.³⁰

For each prime contract active during the study period, the data included: the business name and address of the prime contractor, a description of the contract or purchase, the associated agency for which the work was performed, the contract or purchase order number, start date, total award amount, and the total current paid amount. In some instances, the data also indicated the race and gender of the prime contractor and whether or not an MBE goal had been established for the contract. We also cross-referenced business names and addresses with the State’s Certified MBE Directory and other directories (*See* Chapter III) to obtain additional contractor race and gender information.

Using information from work categories, contract descriptions, and industry classifications, each prime contract was then classified by NERA into one of the State’s six major procurement categories: Construction; Architecture-Engineering and Other Construction-Related Professional Services (“AE-CRS”),³¹ Maintenance; Information Technology (“IT”); Services; and Commodities, Supplies, and Equipment (“CSE”). Additionally, we focused our research on contracts that were classified as “large” purchases, with a value exceeding \$25,000.³²

In this manner, a total of 26,666 prime contracts were identified from State records as comprising the contract universe.³³ According to State records, these 26,666 prime contracts had a cumulative award value of \$27.23 billion and a cumulative paid value (as of the time the data were collected) of \$15.23 billion.

Not all prime contracts have significant subcontract opportunities, however. In particular, contracts valued at \$50,000 or less in Construction, AE-CRS, Maintenance, IT and Services do

²⁹ The State’s fiscal year runs from July 1st through June 30th.

³⁰ The two smallest County Public Schools in the State—Kent and Somerset—were unable to provide the requested prime contract data for this Study.

³¹ Construction-related professional services includes engineering services, architectural services, construction management services, testing services, environmental consulting services, and other construction-related consulting services.

³² \$25,000 is the Category III Small Procurement threshold pursuant to COMAR 21.05.07.04.

³³ Excluded from the universe were contracts not subject to the State’s MBE Statute per State Finance and Procurement Article §14-302(a)(1)(i)1-2 and per COMAR 21.01.03.01.A. We also excluded contracts with foreign companies, as it was not practical to collect data from overseas. Contracts with foreign companies accounted for less than 0.3% of all contract dollars.

not frequently have such opportunities. The same is true in the CSE category for contracts under \$1 million. Of the 26,666 prime contracts in the contract universe, 13,103 were deemed to have significant subcontract opportunities (leaving 13,563 smaller contracts without such opportunities). These 13,103 prime contracts had a cumulative award value of \$26.07 billion, or 96 percent of all award dollars in the contract universe, and a cumulative paid value of \$14.37 billion, or 94 percent of all paid dollars in the contract universe.

We drew a random sample of 3,684 prime contracts from this base of 13,103 prime contracts, or 28 percent of all prime contracts with significant subcontract opportunities. The sample was stratified according to procurement category and state agency.³⁴ These 3,684 sampled contracts had cumulative award value of \$20.56 billion, or 79 percent of all award dollars in the sample universe, and a cumulative paid value of \$11.01 billion, or 77 percent of all paid dollars in the sample universe.

We conducted a careful review of the available subcontract data for these 3,684 prime contract records, and determined that the available subcontract information was incomplete. In consultation with the State, NERA developed a plan to directly contact the prime contractors and vendors that performed these contracts in order to verify the existing data and to supplement it with additional subcontract records where appropriate. As noted above, prime contracts valued at \$50,000 or greater in Construction, AE-CRS, Maintenance, IT and Services were included in this data collection effort, as were prime contracts in CSE valued at \$1M or greater. Prime contracts in Construction, AE-CRS, Maintenance, IT and Services that were under \$50,000 and prime contracts in CSE that were under \$1M were not included in the data collection effort. Those prime contracts did, however, remain in the overall study universe for subsequent analysis.

After an intensive data collection effort and with assistance from the State, we were able to obtain relevant information for 3,368 prime contracts, or 91 percent of all prime contracts sampled, and 35,675 associated subcontracts. The total award dollar value of the 3,368 prime contracts, according to State records, was \$19.52 billion, or 95 percent of all awarded dollars in our sample, and the total paid dollar value was \$10.41 billion, or 95 percent of all paid dollars in our sample. These percentages are sufficiently large to be well representative of the entire universe of State of Maryland contracts and subcontracts being examined for this Study.

Dollar values reported by prime contractors did not always match State of Maryland records exactly.³⁵ According to prime-reported amounts, the total awarded dollar value of the 3,368 prime contracts obtained was \$21.11 billion and the total paid dollar value was \$15.29 billion. In order to achieve consistency with the subcontract dollar values we collected, we use prime reported dollar amounts for the remainder of the relevant analyses in this report.

³⁴ The largest contracts in each stratum were sampled with certainty and the remainder were sampled with replacement.

³⁵ For award dollars, the difference is primarily due to change orders, renewals, and extensions that occurred after collection of the initial records by the State but prior to NERA receiving the requested information from the prime contractor. For paid dollars, it is primarily due to the passage of time between collection of the initial records from the State and receipt of the requested information from the prime contractor.

In all, therefore, a total of 3,368 prime contracts and 35,675 associated subcontracts were collected from prime contractors, with a total awarded value of approximately \$21.11 billion and a total paid value of \$15.29 billion. These 3,368 prime contracts and 35,675 associated subcontracts were then combined with the 13,563 prime contracts without significant subcontracting opportunities to obtain an overall sample of 16,931 prime contracts and 35,756 associated subcontracts. Additionally, we then removed, from the paid dollar column only, contracts that were not substantially complete at the time we performed the data collection for this Study. We made this adjustment so as not to skew the picture of subcontract activity presented in the Study. Certain contracts require a different mix of subcontract industries in the early phases of a project than in the latter phases. By removing contracts that are not substantially complete from the paid dollar totals, we minimize the possibility that not yet completed contracts can alter the distribution of industries from what we would see if all contracts analyzed were 100 percent complete.³⁶

Together, as shown below in Tables 2.1 through 2.3, these prime contracts and subcontracts comprise the Master Contract/Subcontract Database compiled for this Study. Table 2.1 shows, for each major procurement category, the total number of prime contracts and associated subcontracts awarded, the total number of prime contracts and associated subcontracts substantially completed, total dollars awarded, and total dollars paid. Tables 2.2 and 2.3 show comparable information for dollars awarded and dollars paid, respectively, each year of the study period. Table 2.4 shows comparable information for each State agency.

³⁶ For purposes of the Study, a contract was considered to be substantially complete if at least 75 percent of the total award amount had been paid and the procurement category was in Construction, Maintenance, IT or Services.

Table 2.1. Summary of Master Contract/Subcontract Database: Contracts and Subcontracts by Procurement Category, State Fiscal Years 2010-2014

CONTRACT CATEGORY	NUMBER OF AWARDED CONTRACTS	NUMBER OF PAID CONTRACTS	DOLLARS AWARDED (\$)	DOLLARS PAID (\$)
CONSTRUCTION			8,422,190,102	6,767,135,431
<i>Prime Contracts</i>	1,900	1,666	3,098,794,081	2,220,931,903
<i>Subcontracts</i>	25,030	22,064	5,323,396,021	4,546,203,529
AE-CRS			2,544,538,584	1,536,406,206
<i>Prime Contracts</i>	691	691	1,356,184,940	766,671,557
<i>Subcontracts</i>	2,539	2,539	1,188,353,644	769,734,648
MAINTENANCE			1,427,160,377	356,061,208
<i>Prime Contracts</i>	1,456	1,324	1,153,829,221	272,541,455
<i>Subcontracts</i>	2,246	1,271	273,331,156	83,519,753
IT			1,977,040,832	682,925,936
<i>Prime Contracts</i>	1,291	1,191	1,500,038,500	440,189,109
<i>Subcontracts</i>	690	410	477,002,332	242,736,827
SERVICES			5,853,224,032	2,440,087,984
<i>Prime Contracts</i>	2,154	1,971	5,099,003,635	2,022,528,967
<i>Subcontracts</i>	3,761	2,310	754,220,397	417,559,018
CSE			2,048,499,182	1,631,017,251
<i>Prime Contracts</i>	9,439	9,439	1,848,658,901	1,433,530,789
<i>Subcontracts</i>	1,409	1,409	199,840,281	197,486,462
GRAND TOTAL			22,272,653,109	13,413,634,017
<i>Prime Contracts</i>	16,931	16,282	14,056,509,278	7,156,393,779
<i>Subcontracts</i>	35,675	30,003	8,216,143,831	6,257,240,237

Source: NERA calculations from Master Contract/Subcontract Database, State Fiscal Years 2010-2014.

Notes: (1) Prime Contract dollar amounts are net of subcontract amounts; (2) Number of Paid Contracts and Dollars Paid exclude contracts that were not substantially complete.

Table 2.2 shows the total number of prime contracts awarded during each year of the Study period and total dollars awarded for those contracts, by major procurement category.

Table 2.2. Summary of Master Contract/Subcontract Database: Prime Contracts by Fiscal Year (Dollars Awarded)

PROCUREMENT CATEGORY & YEAR	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)
<i>CONSTRUCTION</i>		
2010	328	1,891,952,930
2011	375	1,386,220,167
2012	344	1,811,831,649
2013	416	1,549,373,989
2014	437	1,782,811,355
TOTAL	1,900	8,422,190,091
<i>AE-CRS</i>		
2010	146	697,424,243
2011	136	696,013,118
2012	147	373,582,374
2013	90	254,271,670
2014	172	523,247,175
TOTAL	691	2,544,538,580
<i>MAINTENANCE</i>		
2010	241	158,023,692
2011	286	219,465,518
2012	303	124,312,144
2013	294	620,297,850
2014	332	305,061,172
TOTAL	1,456	1,427,160,376

Table 2.2. Summary of Master Contract/Subcontract Database: Prime Contracts by Year (Dollars Awarded), cont'd

PROCUREMENT CATEGORY & YEAR	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)
<i>IT</i>		
2010	209	391,547,237
2011	256	533,668,419
2012	248	402,456,507
2013	244	190,896,277
2014	334	458,472,389
TOTAL	1,291	1,977,040,829
<i>SERVICES</i>		
2010	450	1,759,949,983
2011	433	568,180,156
2012	431	1,293,478,546
2013	407	1,513,510,231
2014	433	718,105,123
TOTAL	2,154	5,853,224,038
<i>CSE</i>		
2010	1,933	421,698,578
2011	2,015	571,428,673
2012	2,045	389,963,861
2013	1,852	331,909,170
2014	1,594	333,498,902
TOTAL	9,439	2,048,499,184
<i>GRAND TOTAL</i>		
2010	3,307	5,320,596,663
2011	3,501	3,974,976,051
2012	3,518	4,395,625,082
2013	3,303	4,460,259,187
2014	3,302	4,121,196,117
TOTAL	16,931	22,272,653,099

Source: See Table 2.1.

Table 2.3 shows the total number of prime contracts awarded during each year of the Study period and total dollars paid for those contracts, by major procurement category.

Table 2.3. Summary of Master Contract/Subcontract Database: Prime Contracts by Year (Dollars Paid)

PROCUREMENT CATEGORY & YEAR	NUMBER OF PRIME CONTRACTS	DOLLARS PAID (\$)
<i>CONSTRUCTION</i>		
2010	320	1,860,997,666
2011	339	1,288,982,976
2012	323	1,586,676,652
2013	354	1,169,784,856
2014	330	860,693,285
TOTAL	1,666	6,767,135,435
<i>AE-CRS</i>		
2010	146	500,286,030
2011	136	529,201,792
2012	147	278,287,328
2013	90	93,736,947
2014	172	134,894,111
TOTAL	691	1,536,406,209
<i>MAINTENANCE</i>		
2010	224	106,798,533
2011	246	118,733,794
2012	281	41,770,839
2013	275	38,887,169
2014	298	49,870,873
TOTAL	1,324	356,061,207

Table 2.3. Summary of Master Contract/Subcontract Database: Prime Contracts by Year (Dollars Paid), cont'd

PROCUREMENT CATEGORY & YEAR	NUMBER OF PRIME CONTRACTS	DOLLARS PAID (\$)
<i>IT</i>		
2010	200	316,590,273
2011	247	114,256,059
2012	229	117,150,712
2013	229	82,057,466
2014	286	52,871,425
TOTAL	1,191	682,925,935
<i>SERVICES</i>		
2010	417	1,231,699,907
2011	410	317,200,334
2012	393	535,586,293
2013	370	239,546,240
2014	381	116,055,212
TOTAL	1,971	2,440,087,986
<i>CSE</i>		
2010	1,933	328,206,076
2011	2,015	483,333,139
2012	2,045	303,031,855
2013	1,852	258,726,009
2014	1,594	257,720,174
TOTAL	9,439	1,631,017,254
<i>GRAND TOTAL</i>		
2010	3240	4,344,578,486
2011	3393	2,851,708,094
2012	3418	2,862,503,679
2013	3170	1,882,738,686
2014	3061	1,472,105,080
TOTAL	16282	13,413,634,025

Source: See Table 2.1.

Table 2.4 shows the total number of prime contracts awarded by each agency during each year of the Study period as well as dollars awarded and dollars paid for those contracts, by major procurement category.

Table 2.4. Summary of Master Contract/Subcontract Database: Prime Contracts by State Agency, State Fiscal Years 2010-2014

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)	NUMBER OF SUBSTANTIALLY COMPLETE PRIME CONTRACTS	DOLLARS PAID (\$)
CONSTRUCTION	1,900	8,422,190,102	1,666	6,767,135,431
DGS	44	159,145,266	32	107,611,407
DPSCS	3	639,459	3	639,083
MDOT-MAA	26	418,259,869	18	275,213,620
MDOT-MPA	30	98,406,333	25	63,512,072
MDOT-MTA	49	266,399,238	40	146,861,907
MDOT-MVA	1	3,804,995	1	3,255,994
MDOT-SECRETARY	4	6,693,192	4	6,310,443
MDOT-SHA	720	2,126,153,801	574	1,491,112,201
MDTA	26	610,847,422	16	392,575,600
MES	33	74,183,197	32	69,897,549
MSU	13	145,655,480	13	145,117,344
PSC-ALLEGANY COUNTY	6	4,546,931	6	4,543,247
PSC-ANNE ARUNDEL COUNTY	65	203,669,534	55	128,098,986
PSC-BALTIMORE CITY	23	83,918,495	22	80,804,878
PSC-BALTIMORE COUNTY	45	276,865,126	41	250,157,669
PSC-CALVERT COUNTY	15	48,030,357	15	48,030,356
PSC-CAROLINE COUNTY	9	90,479,982	7	72,427,912
PSC-CARROLL COUNTY	18	55,030,003	17	50,440,835
PSC-CECIL COUNTY	12	25,250,036	12	21,766,788
PSC-CHARLES COUNTY	13	96,611,448	13	96,252,253
PSC-DORCHESTER COUNTY	26	2,698,234	26	2,689,157
PSC-FREDERICK COUNTY	57	117,625,062	57	117,440,573
PSC-GARRETT COUNTY	8	750,052	8	735,688
PSC-HARFORD COUNTY	23	72,660,489	18	51,265,742
PSC-HOWARD COUNTY	51	187,427,253	45	156,426,015

Table 2.4. Summary of Master Contract/Subcontract Database: Prime Contracts by State Agency, State Fiscal Years 2010-2014, cont'd

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)	NUMBER OF SUBSTANTIALLY COMPLETE PRIME CONTRACTS	DOLLARS PAID (\$)
CONSTRUCTION	1,900	8,422,190,102	1,666	6,767,135,431
PSC-MONTGOMERY COUNTY	60	726,531,014	60	701,980,083
PSC-PRINCE GEORGE'S COUNTY	30	255,078,727	29	250,842,940
PSC-QUEEN ANNE'S COUNTY	10	6,064,402	8	4,340,021
PSC-ST. MARY'S COUNTY	23	53,966,602	23	48,745,613
PSC-TALBOT COUNTY	6	2,404,334	6	2,388,608
PSC-WASHINGTON COUNTY	22	45,169,407	22	45,120,632
PSC-WICOMICO COUNTY	28	89,658,636	28	85,372,981
PSC-WORCESTER COUNTY	15	33,356,141	7	15,764,628
TOWSON UNIV	114	52,786,516	114	51,992,040
U OF M-BALT COUNTY	119	1,243,716,673	117	1,132,901,965
U OF M-BALTIMORE	33	46,386,537	33	46,266,474
U OF M-COLLG PARK	114	644,139,692	113	551,386,649
U OF M-UNIV COLL	6	47,180,168	6	46,845,480

Table 2.4. Summary of Master Contract/Subcontract Database: Prime Contracts by State Agency, State Fiscal Years 2010-2014, cont'd

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)	NUMBER OF SUBSTANTIALLY COMPLETE PRIME CONTRACTS	DOLLARS PAID (\$)
AE-CRS	691	2,544,538,584	691	1,536,406,206
DGS	123	54,017,834	123	44,479,962
DNR	1	2,405,698	1	2,405,698
DPSCS	3	114,941	3	114,935
EDUC	1	40,434	1	40,434
ENVI	1	1,062,913	1	1,062,913
MDOT-MAA	14	160,300,000	14	104,841,889
MDOT-MPA	12	39,449,985	12	23,851,825
MDOT-MTA	40	772,244,305	40	506,194,373
MDOT-MVA	1	182,750	1	0
MDOT-SECRETARY	3	4,000,000	3	908,770
MDOT-SHA	179	837,084,884	179	395,005,275
MDTA	42	456,340,001	42	280,467,851
MES	50	20,919,972	50	12,584,824
MSU	9	12,907,704	9	11,610,703
PSC-PRINCE GEORGE'S COUNTY	4	3,334,618	4	3,309,086
TOWSON UNIV	32	3,665,054	32	3,321,334
U OF M-BALT COUNTY	76	104,740,219	76	90,808,678
U OF M-BALTIMORE	33	5,523,779	33	4,847,450
U OF M-COLLG PARK	64	61,766,475	64	46,127,400
U OF M-UNIV COLL	3	4,437,019	3	4,422,803

Table 2.4. Summary of Master Contract/Subcontract Database: Prime Contracts by State Agency, State Fiscal Years 2010-2014, cont'd

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)	NUMBER OF SUBSTANTIALLY COMPLETE PRIME CONTRACTS	DOLLARS PAID (\$)
MAINTENANCE	1,456	1,427,160,377	1,324	356,061,208
DGS	280	458,041,615	242	74,991,506
DHMH	5	164,619	5	150,203
DHR	8	990,323	8	883,541
DJS	37	3,972,914	34	2,054,357
DNR	21	756,482	21	700,363
DPSCS	60	2,580,310	60	2,391,489
DSP	45	5,674,592	44	5,480,045
EDUC	1	28,088	1	28,088
MDOT-MAA	28	146,987,464	4	25,677,908
MDOT-MPA	4	2,301,947	3	60,071
MDOT-MTA	43	500,165,936	30	24,286,355
MDOT-MVA	2	1,970,543	1	1,770,558
MDOT-SECRETARY	40	3,514,425	35	1,055,794
MDOT-SHA	156	164,110,977	117	91,186,401
MDTA	4	3,643,830	2	29,021
MES	3	115,001	3	35,001
MSU	37	3,517,595	37	3,071,573
PSC-FREDERICK COUNTY	1	44,651	1	44,651
TOWSON UNIV	13	480,287	13	372,353
U OF M-BALT COUNTY	64	7,224,914	61	6,291,089
U OF M-BALTIMORE	69	29,881,500	69	29,800,955
U OF M-COLLG PARK	534	33,532,223	532	28,239,743
U OF M-UNIV COLL	1	57,460,143	1	57,460,143

Table 2.4. Summary of Master Contract/Subcontract Database: Prime Contracts by State Agency, State Fiscal Years 2010-2014, cont'd

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)	NUMBER OF SUBSTANTIALLY COMPLETE PRIME CONTRACTS	DOLLARS PAID (\$)
IT	1,291	1,977,040,832	1,191	682,925,936
DBM	3	3,764,872	3	3,396,064
DGS	8	1,680,123	8	1,649,398
DHMH	27	300,634,234	22	86,081,164
DHR	17	313,716,554	13	155,585,232
DJS	4	2,338,778	3	1,056,759
DNR	4	143,685	4	143,685
DOIT	48	695,726,535	33	74,923,263
DPSCS	41	46,863,376	35	17,961,499
DSP	16	12,494,204	13	3,876,032
EDUC	61	79,201,137	51	27,802,845
ENVI	6	2,628,900	3	1,293,490
LOTT	2	1,546,799	2	1,542,447
MDOT-MAA	46	29,777,363	43	11,762,248
MDOT-MPA	4	3,194,712	2	233,112
MDOT-MTA	21	16,794,066	14	3,319,898
MDOT-MVA	145	101,626,768	129	45,352,930
MDOT-SECRETARY	62	39,416,779	55	8,541,567
MDOT-SHA	99	112,389,606	87	46,911,446
MES	4	1,843,397	3	1,710,064
MSU	70	2,672,745	70	2,672,745
TOWSON UNIV	175	19,114,879	175	18,908,643
U OF M-BALT COUNTY	72	8,560,986	72	8,503,988
U OF M-BALTIMORE	137	25,116,726	137	25,086,429
U OF M-COLLG PARK	209	117,032,179	205	103,278,473
U OF M-UNIV COLL	10	38,761,431	9	31,332,516

Table 2.4. Summary of Master Contract/Subcontract Database: Prime Contracts by State Agency, State Fiscal Years 2010-2014, cont'd

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)	NUMBER OF SUBSTANTIALLY COMPLETE PRIME CONTRACTS	DOLLARS PAID (\$)
SERVICES	2,154	5,853,224,032	1,971	2,440,087,984
DBM	29	345,804,127	25	126,471,954
DGS	16	10,959,653	14	4,097,937
DHMH	130	748,969,900	111	424,725,632
DHR	72	999,020,045	59	830,022,838
DJS	45	103,978,581	38	17,320,991
DNR	33	32,729,516	31	26,885,144
DPSCS	57	904,330,067	51	83,327,227
DSP	58	17,441,894	56	10,096,449
EDUC	94	26,559,887	86	14,089,239
ENVI	25	15,165,369	22	1,307,283
LOTT	32	633,065,300	21	73,156,694
MDOT-MAA	32	83,209,589	29	23,202,317
MDOT-MPA	18	20,579,918	16	9,525,685
MDOT-MTA	143	1,049,183,491	116	356,730,841
MDOT-MVA	19	83,208,810	13	54,400,512
MDOT-SECRETARY	25	18,094,620	21	1,112,572
MDOT-SHA	107	41,734,944	92	17,188,769
MDTA	8	36,592,700	2	92,700
MES	58	11,910,718	52	4,749,205
MSU	122	20,479,205	118	15,539,715
TOWSON UNIV	87	78,762,277	80	71,006,951
U OF M-BALT COUNTY	439	161,571,900	426	84,521,919
U OF M-BALTIMORE	186	52,208,396	183	40,709,251
U OF M-COLLG PARK	311	38,688,749	304	33,716,427
U OF M-UNIV COLL	8	318,974,373	5	116,089,731

Table 2.4. Summary of Master Contract/Subcontract Database: Prime Contracts by State Agency, State Fiscal Years 2010-2014, cont'd

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)	NUMBER OF SUBSTANTIALLY COMPLETE PRIME CONTRACTS	DOLLARS PAID (\$)
CSE	9,439	2,048,499,182	9,439	1,631,017,251
DBM	1	43,599	1	16,495
DGS	1,521	599,246,642	1,521	370,998,639
DHMH	135	11,083,767	135	8,651,800
DHR	53	5,979,758	53	3,893,165
DJS	12	1,260,692	12	1,003,870
DNR	22	2,159,821	22	1,612,860
DOIT	46	68,866,901	46	33,004,947
DPSCS	837	74,189,900	837	37,396,973
DSP	119	8,723,735	119	8,031,119
EDUC	385	48,132,135	385	45,416,386
ENVI	30	1,201,408	30	371,740
LOTT	1	130,000	1	98,088
MDOT-MAA	155	52,645,519	155	38,610,341
MDOT-MPA	110	45,491,731	110	42,749,689
MDOT-MTA	947	315,669,895	947	282,094,875
MDOT-MVA	69	138,744,114	69	137,626,756
MDOT-SECRETARY	33	5,570,216	33	4,472,048
MDOT-SHA	383	59,269,474	383	57,259,331
MES	378	61,395,647	378	53,082,295
MSU	161	16,464,652	161	16,464,652
PSC-ANNE ARUNDEL COUNTY	2	1,843,641	2	1,828,876
PSC-CECIL COUNTY	1	93,860	1	93,860
PSC-DORCHESTER COUNTY	2	60,313	2	60,313
PSC-HARFORD COUNTY	10	566,104	10	566,104
TOWSON UNIV	210	13,868,269	210	12,302,080
U OF M-BALT COUNTY	1,306	151,126,912	1,306	143,341,651
U OF M-BALTIMORE	400	143,145,658	400	125,636,612
U OF M-COLLG PARK	2,097	220,057,166	2,097	203,029,790
U OF M-UNIV COLL	13	1,467,652	13	1,301,896

Table 2.4. Summary of Master Contract/Subcontract Database: Prime Contracts by State Agency, State Fiscal Years 2010-2014, cont'd

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)	NUMBER OF SUBSTANTIALLY COMPLETE PRIME CONTRACTS	DOLLARS PAID (\$)
OVERALL	16,931	22,272,653,109	16,282	13,413,634,017
DBM	33	349,612,597	29	129,884,512
DGS	1,992	1,283,091,133	1,940	603,828,849
DHMH	297	1,060,852,520	273	519,608,800
DHR	150	1,319,706,680	133	990,384,777
DJS	98	111,550,964	87	21,435,977
DNR	81	38,195,202	79	31,747,749
DOIT	94	764,593,436	79	107,928,209
DPSCS	1,001	1,028,718,052	989	141,831,207
DSP	238	44,334,425	232	27,483,644
EDUC	542	153,961,682	524	87,376,993
ENVI	62	20,058,590	56	4,035,426
LOTT	35	634,742,098	24	74,797,229
MDOT-MAA	301	891,179,803	263	479,308,323
MDOT-MPA	178	209,424,626	168	139,932,454
MDOT-MTA	1,243	2,920,456,931	1,187	1,319,488,247
MDOT-MVA	237	329,537,981	214	242,406,750
MDOT-SECRETARY	167	77,289,231	151	22,401,193
MDOT-SHA	1,644	3,340,743,687	1,432	2,098,663,424
MDTA	80	1,107,423,953	62	673,165,173
MES	526	170,367,932	518	142,058,938
MSU	412	201,697,383	408	194,476,734
PSC-ALLEGANY COUNTY	6	4,546,931	6	4,543,247
PSC-ANNE ARUNDEL COUNTY	67	205,513,175	57	129,927,862
PSC-BALTIMORE CITY	23	83,918,495	22	80,804,878
PSC-BALTIMORE COUNTY	45	276,865,126	41	250,157,669
PSC-CALVERT COUNTY	15	48,030,357	15	48,030,356
PSC-CAROLINE COUNTY	9	90,479,982	7	72,427,912
PSC-CARROLL COUNTY	18	55,030,003	17	50,440,835

Table 2.4. Summary of Master Contract/Subcontract Database: Prime Contracts by State Agency, State Fiscal Years 2010-2014, cont'd

DEPARTMENT	NUMBER OF PRIME CONTRACTS	DOLLARS AWARDED (\$)	NUMBER OF SUBSTANTIALLY COMPLETE PRIME CONTRACTS	DOLLARS PAID (\$)
OVERALL	16,931	22,272,653,109	16,282	13,413,634,017
PSC-CECIL COUNTY	13	25,343,896	13	21,860,648
PSC-CHARLES COUNTY	13	96,611,448	13	96,252,253
PSC-DORCHESTER COUNTY	28	2,758,547	28	2,749,470
PSC-FREDERICK COUNTY	58	117,669,713	58	117,485,224
PSC-GARRETT COUNTY	8	750,052	8	735,688
PSC-HARFORD COUNTY	33	73,226,593	28	51,831,846
PSC-HOWARD COUNTY	51	187,427,253	45	156,426,015
PSC-MONTGOMERY COUNTY	60	726,531,014	60	701,980,083
PSC-PRINCE GEORGE'S COUNTY	34	258,413,345	33	254,152,026
PSC-QUEEN ANNE'S COUNTY	10	6,064,402	8	4,340,021
PSC-ST. MARY'S COUNTY	23	53,966,602	23	48,745,613
PSC-TALBOT COUNTY	6	2,404,334	6	2,388,608
PSC-WASHINGTON COUNTY	22	45,169,407	22	45,120,632
PSC-WICOMICO COUNTY	28	89,658,636	28	85,372,981
PSC-WORCESTER COUNTY	15	33,356,141	7	15,764,628
TOWSON UNIV	631	168,677,283	624	157,903,403
U OF M-BALT COUNTY	2,076	1,676,941,603	2,058	1,466,369,290
U OF M-BALTIMORE	858	302,262,596	855	272,347,172
U OF M-COLLG PARK	3,329	1,115,216,483	3,315	965,778,484
U OF M-UNIV COLL	41	468,280,786	37	257,452,570

Source: See Table 2.1.

B. Geographic Market Definition for Contracting and Procurement

To determine the geographic dimension of the State of Maryland's contracting and procurement markets, we used the Master Contract/Subcontract Database, as described in the previous section, to obtain the zip codes and thereby the county and state for each contractor and subcontractor establishment identified in the database. Using this location information, we then

calculated the percentage of State contract and subcontract dollars awarded to establishments by state and county during the study period. The geographic market area is defined as that region which accounts for approximately 75 percent of overall contracting and procurement spending by a given state or local government. Contractors and vendors with locations in the geographic market area account for the large majority of contracting and procurement expenditures by the State of Maryland during the study period.

Table 2.5. Distribution of Contracting Dollars by Geographic Location, State Fiscal Years 2010-2014

Location	Con- struction (%)	AE- CRS (%)	Main- tenance (%)	IT (%)	Services (%)	CSE (%)	Total (%)
<i>Dollars Awarded</i>							
Inside State of MD Market Area	89.4	92.5	72.9	84.2	77.8	59.3	82.4
Outside State of MD Market Area	10.6	7.5	27.1	15.8	22.2	40.7	17.6
<i>Dollars Paid</i>							
Inside State of MD Market Area	89.1	92.5	92.5	82.4	86.8	59.8	85.2
Outside State of MD Market Area	10.9	7.5	7.5	17.6	13.2	40.2	14.8
<i>Dollars Awarded</i>							
Inside Maryland	79.7	89.1	57.0	65.9	74.0	55.5	74.4
Outside Maryland	20.3	10.9	43.0	34.1	26.0	44.5	25.6
<i>Dollars Paid</i>							
Inside Maryland	79.4	89.2	67.0	60.5	82.2	59.8	76.8
Outside Maryland	20.6	10.3	33.0	39.5	17.8	40.2	23.2

Source: See Table 2.1.

Note: “State of MD Market Area” includes the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area. See below and fn. 39.

As shown in Table 2.5, the overall share of expenditures inside the geographic market area is 82.4 percent of dollars awarded and 85.2 percent of dollars paid. The share is 75.0 percent or greater in Construction, AE-CRS, IT, and Services regardless of whether dollars awarded or dollars paid is used as the metric. In Maintenance, it is slightly lower than 75 percent using award dollars as the metric, but over 92 percent using paid dollars. The average share (combining award and paid dollar figures) is highest in AE-CRS, followed by Construction, IT, Maintenance, Services, and finally CSE.³⁷ For purposes of this Study, therefore, the State’s

³⁷ For informational purposes, Table 2.5 also shows the share of awards and payments inside and outside the State of Maryland.

geographic market area is comprised of the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area.³⁸

Table 2.6 shows the geographic distribution of contract and procurement dollars across all procurement categories within the State of Maryland market area.

³⁸ The Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area include, in Virginia, Arlington County, Clarke County, Culpeper County, Fairfax County, Fauquier County, Loudoun County, Prince William County, Rappahannock County, Spotsylvania County, Stafford County, Warren County, Alexandria city, Fairfax city, Falls Church city, Fredericksburg city, Manassas city, and Manassas Park city; and in West Virginia, Jefferson County.

Table 2.6. Distribution of State of Maryland Contract Award Dollars by State and County, Inside the Market Area, State Fiscal Years 2010-2014

STATE	COUNTY	AMOUNT (\$)	PERCENT	CUMULATIVE PERCENT
MD	BALTIMORE	3,760,879,188	20.49	20.49
MD	BALTIMORE CITY	3,022,850,655	16.47	36.95
MD	MONTGOMERY	1,954,518,606	10.65	47.60
MD	HOWARD	1,681,358,657	9.16	56.76
MD	ANNE ARUNDEL	1,577,464,865	8.59	65.35
MD	PRINCE GEORGES	1,513,159,191	8.24	73.59
MD	WASHINGTON	825,046,228	4.49	78.09
VA	FAIRFAX	634,656,204	3.46	81.55
MD	HARFORD	528,875,399	2.88	84.43
MD	FREDERICK	411,731,880	2.24	86.67
MD	ALLEGANY	382,579,880	2.08	88.75
DC	DISTRICT OF COLUMBIA	360,696,488	1.96	90.72
MD	CARROLL	246,268,366	1.34	92.06
VA	LOUDOUN	227,621,491	1.24	93.30
DE	NEW CASTLE	190,832,860	1.04	94.34
MD	WICOMICO	167,275,830	0.91	95.25
MD	CHARLES	141,057,465	0.77	96.02
VA	ARLINGTON	108,443,376	0.59	96.61
MD	KENT	93,019,729	0.51	97.12
VA	PRINCE WILLIAM	69,783,575	0.38	97.50
DE	SUSSEX	60,729,398	0.33	97.83
MD	CALVERT	47,589,360	0.26	98.09
MD	CAROLINE	44,510,300	0.24	98.33
VA	STAFFORD	40,375,496	0.22	98.55
VA	ALEXANDRIA CITY	35,740,474	0.19	98.74
MD	QUEEN ANNES	33,157,295	0.18	98.92
MD	TALBOT	25,421,905	0.14	99.06
MD	DORCHESTER	24,761,784	0.13	99.20
DE	KENT	24,005,366	0.13	99.33
MD	GARRETT	23,292,312	0.13	99.46

Defining the Relevant Markets

STATE	COUNTY	AMOUNT (\$)	PERCENT	CUMULATIVE PERCENT
MD	SAINT MARYS	19,927,720	0.11	99.56
MD	CECIL	17,993,453	0.10	99.66
MD	WORCESTER	14,775,442	0.08	99.74
VA	CLARKE	9,655,479	0.05	99.80
VA	FALLS CHURCH CITY	9,646,207	0.05	99.85
MD	SOMERSET	7,384,609	0.04	99.89
VA	MANASSAS CITY	6,460,859	0.04	99.92
VA	FAUQUIER	5,171,163	0.03	99.95
VA	WARREN	3,098,384	0.02	99.97
WV	JEFFERSON	1,432,146	0.01	99.98
VA	FREDERICKSBURG CITY	1,360,046	0.01	99.98
VA	SPOTSYLVANIA	1,265,330	0.01	99.99
VA	CULPEPER	706,238	0.00	99.99
VA	FAIRFAX CITY	639,592	0.00	100.00
VA	RAPPAHANNOCK	395,459	0.00	100.00
VA	MANASSAS PARK CITY	42,506	0.00	100.00

Source: *See* Table 2.1.

Outside the market area, counties with a significant amount of spending activity (defined by NERA as geographies that accounted for more than approximately 1.0 percent of total spending among three or more vendors) included:

CONSTRUCTION

YORK, PA
 CHESTER, PA
 ALLEGHENY, PA
 LANCASTER, PA
 LAWRENCE, PA
 FRANKLIN, OH
 MONTGOMERY, PA

CONSTRUCTION, CONT'D

FRANKLIN, PA
 BERKS, PA
 WASHINGTON, PA
 WESTMORELAND, PA
 RICHMOND CITY, VA
 MECKLENBURG, NC
 COOK, IL

CONSTRUCTION, CONT'D

CUYAHOGA, OH
AMHERST, VA
MARION, IN
GLOUCESTER, NJ
HARRISONBURG CITY, VA

AE-CRS

PHILADELPHIA, PA
NEW YORK, NY
ALLEGHENY, PA
SUFFOLK, MA
CUMBERLAND, PA
HAMILTON, OH
FULTON, GA
DAUPHIN, PA
DELAWARE, OH
MIDDLESEX, MA
ORANGE, CA
MONTGOMERY, PA
COOK, IL

MAINTENANCE

MIDDLESEX, MA
DELAWARE, PA
MORRIS, NJ
DALLAS, TX
ONTARIO PROVINCE, CANADA

IT

ALAMEDA, CA
FULTON, GA

IT, CONT'D

GWINNETT, GA
LOS ANGELES, CA
SACRAMENTO, CA
DALLAS, TX
SAN DIEGO, CA
NEW YORK, NY
DENVER, CO
VIRGINIA BEACH CITY, VA
COOK, IL
ORANGE, CA
DUPAGE, IL
DELAWARE, PA
CHESTER, PA
WASHINGTON, RI
KING, WA
MARION, IN

SERVICES

CLARK, NV
DENVER, CO
LOS ANGELES, CA
MERCER, NJ
ST. LOUIS, MO
COOK, IL
MONTGOMERY, PA
MIDDLESEX, NJ
PHILADELPHIA, PA
SAN FRANCISCO, CA
LUZERNE, PA
KING, WA

SERVICES, CONT'D

FULTON, GA
 WILLIAMSON, TN
 NEW YORK, NY
 SUFFOLK, MA

CSE

BUCKS, PA
 COOK, IL
 HENRICO, VA
 MIDDLESEX, MA
 ALLEGHENY, PA

CSE, CONT'D

FULTON, GA
 LOS ANGELES, CA
 ST. LOUIS, MO
 CHESTER, PA
 PHILADELPHIA, PA
 FAIRFIELD, CT
 DUPAGE, IL
 SAN DIEGO, CA
 DALLAS, TX
 ORANGE, CA

C. Product Market Definition for Contracting and Procurement

Using the major procurement categories for each prime contract and the primary NAICS codes assigned by NERA to each prime contractor and subcontractor in the Master Contract/Subcontract Database, we identified the most important Industry Groups within each contracting and procurement category, as measured by total dollars awarded. The relevant NAICS codes and their associated dollar weights appear below in Tables 2.7 through 2.12 for Construction, AE-CRS, Maintenance, IT, Services, and CSE, respectively.

Each Industry Group (four-digit NAICS) identified in Tables 2.7 through 2.12 consists of several more detailed Industries (four- and six-digit NAICS) and is also part of a more aggregated Industry Sub-sector (three-digit NAICS). Overall, State of Maryland contracting awards occur in 80 NAICS Industry Sub-sectors, 259 NAICS Industry Groups and 695 NAICS Industries. In Construction, contract spending occurs across 67 NAICS Industry Sub-sectors, 179 NAICS Industry Groups and 413 NAICS Industries. In Architecture & Engineering, spending occurs across 33 NAICS Industry Sub-sectors, 65 NAICS Industry Groups and 116 NAICS Industries. In Maintenance, spending occurs across 63 NAICS Industry Sub-sectors, 158 NAICS Industry Groups and 296 NAICS Industries. In IT, spending occurs across 47 NAICS Industry Sub-sectors, 98 NAICS Industry Groups and 167 NAICS Industries. In Services, spending occurs across 77 NAICS Industry Sub-sectors, 217 NAICS Industry Groups and 467 NAICS Industries. In CSE, spending occurs across 75 NAICS Industry Sub-sectors, 220 NAICS Industry Groups and 500 NAICS Industries.

Many industries are part of the State's contracting activities. However, Tables 2.7 through 2.12 demonstrate that actual contracting and subcontracting opportunities are not distributed evenly among these industries. The distribution of contract expenditures is, in fact, highly skewed. In

Construction, we see from Table 2.7 that just six Industry Groups alone (NAICS 2382, 2373, 2381, 2362, 2389 and 2383) account for over three-fourths of all award dollars, and just 15 Industry Groups account for over 90 percent, with the remainder distributed among another 164 additional Industry Groups.

Table 2.7. Distribution of Contract and Subcontract Dollars Awarded by Industry Group, State Fiscal Years 2010-2014: Construction

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
2382	Building Equipment Contractors	21.97	21.97
2373	Highway, Street, and Bridge Construction	18.46	40.44
2381	Foundation, Structure, and Building Exterior Contractors	15.05	55.48
2362	Nonresidential Building Construction	10.63	66.11
2389	Other Specialty Trade Contractors	4.91	71.02
2383	Building Finishing Contractors	4.34	75.36
3323	Architectural and Structural Metals Manufacturing	2.51	77.87
4233	Lumber and Other Construction Materials Merchant Wholesalers	2.32	80.19
4247	Petroleum and Petroleum Products Merchant Wholesalers	2.10	82.28
2371	Utility System Construction	2.08	84.36
2379	Other Heavy and Civil Engineering Construction	1.79	86.15
4842	Specialized Freight Trucking	1.45	87.59
5617	Services to Buildings and Dwellings	0.88	88.47
5413	Architectural, Engineering, and Related Services	0.87	89.35
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	0.80	90.15
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	0.78	90.93
3273	Cement and Concrete Product Manufacturing	0.75	91.68
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	0.72	92.40
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	0.61	93.01
3351	Electric Lighting Equipment Manufacturing	0.60	93.61
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	0.51	94.13
5619	Other Support Services	0.42	94.55
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	0.40	94.94
5616	Investigation and Security Services	0.38	95.33
4239	Miscellaneous Durable Goods Merchant Wholesalers	0.33	95.65

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
5415	Computer Systems Design and Related Services	0.28	95.93
3399	Other Miscellaneous Manufacturing	0.26	96.20
3219	Other Wood Product Manufacturing	0.26	96.46
5629	Remediation and Other Waste Management Services	0.25	96.70
4889	Other Support Activities for Transportation	0.21	96.92
2123	Nonmetallic Mineral Mining and Quarrying	0.17	97.09
3359	Other Electrical Equipment and Component Manufacturing	0.16	97.25
4422	Home Furnishings Stores	0.15	97.40
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	0.15	97.55
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	0.14	97.68
5613	Employment Services	0.13	97.81
4441	Building Material and Supplies Dealers	0.11	97.92
3311	Iron and Steel Mills and Ferroalloy Manufacturing	0.10	98.02
3329	Other Fabricated Metal Product Manufacturing	0.10	98.12
4539	Other Miscellaneous Store Retailers	0.09	98.21
5416	Management, Scientific, and Technical Consulting Services	0.09	98.31
3342	Communications Equipment Manufacturing	0.08	98.38
4431	Electronics and Appliance Stores	0.08	98.46
3339	Other General Purpose Machinery Manufacturing	0.07	98.52
4884	Support Activities for Road Transportation	0.06	98.59
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing	0.06	98.65
4442	Lawn and Garden Equipment and Supplies Stores	0.06	98.71
4821	Rail Transportation	0.06	98.77
4232	Furniture and Home Furnishing Merchant Wholesalers	0.05	98.82
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	0.05	98.88
3372	Office Furniture (including Fixtures) Manufacturing	0.05	98.93
4543	Direct Selling Establishments	0.05	98.98
3365	Railroad Rolling Stock Manufacturing	0.05	99.03
	Balance of industries (126 industry groups)	0.97	100.00
<i>TOTAL - \$8,422,190,102</i>			

Source: See Table 2.1.

In AE-CRS (Table 2.8), there is an even more concentrated pattern—one Industry Group alone (NAICS 5413) accounts for almost 90 percent of all award dollars and four Industry Groups account for over 95 percent, with the balance distributed among another 61 Industry Groups.

Table 2.8. Distribution of Contract and Subcontract Dollars Awarded by Industry Group, State Fiscal Years 2010-2014: AE-CRS

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
5413	Architectural, Engineering, and Related Services	87.31	87.31
5416	Management, Scientific, and Technical Consulting Services	3.76	91.07
2379	Other Heavy and Civil Engineering Construction	3.65	94.72
2373	Highway, Street, and Bridge Construction	0.92	95.64
5619	Other Support Services	0.78	96.42
2382	Building Equipment Contractors	0.64	97.06
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	0.50	97.56
6242	Community Food and Housing, and Emergency and Other Relief Services	0.40	97.96
5418	Advertising, Public Relations, and Related Services	0.34	98.30
5415	Computer Systems Design and Related Services	0.31	98.61
5417	Scientific Research and Development Services	0.28	98.89
5613	Employment Services	0.17	99.06
	Balance of industries (53 industry groups)	0.94	100.00
	<i>TOTAL - \$2,544,538,584</i>		

Source: See Table 2.1.

In Maintenance (Table 2.9), just five Industry Groups account for more than three-fifths of all awards, 9 Industry Groups account for almost three-fourths, and the remainder is distributed among 149 additional Industry Groups.

Table 2.9. Distribution of Contract and Subcontract Dollars Awarded by Industry Group, State Fiscal Years 2010-2014: Maintenance

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
3365	Railroad Rolling Stock Manufacturing	21.86	21.86
4247	Petroleum and Petroleum Products Merchant Wholesalers	20.24	42.10
2382	Building Equipment Contractors	7.79	49.89
5612	Facilities Support Services	5.57	55.46
5616	Investigation and Security Services	4.91	60.37

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
5617	Services to Buildings and Dwellings	4.35	64.72
2373	Highway, Street, and Bridge Construction	4.17	68.89
2389	Other Specialty Trade Contractors	3.39	72.28
2381	Foundation, Structure, and Building Exterior Contractors	2.46	74.75
5614	Business Support Services	2.22	76.97
4852	Interurban and Rural Bus Transportation	1.93	78.90
4884	Support Activities for Road Transportation	1.65	80.56
2362	Nonresidential Building Construction	1.47	82.03
2379	Other Heavy and Civil Engineering Construction	1.33	83.36
4882	Support Activities for Rail Transportation	1.31	84.67
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	1.25	85.92
4543	Direct Selling Establishments	1.17	87.09
5413	Architectural, Engineering, and Related Services	1.06	88.15
4851	Urban Transit Systems	0.99	89.14
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	0.97	90.11
5621	Waste Collection	0.71	90.82
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	0.69	91.51
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	0.59	92.11
3342	Communications Equipment Manufacturing	0.53	92.64
4842	Specialized Freight Trucking	0.50	93.14
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	0.42	93.56
4233	Lumber and Other Construction Materials Merchant Wholesalers	0.40	93.96
4411	Automobile Dealers	0.37	94.33
3363	Motor Vehicle Parts Manufacturing	0.34	94.67
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	0.33	95.00
5416	Management, Scientific, and Technical Consulting Services	0.32	95.32
2383	Building Finishing Contractors	0.32	95.64
5622	Waste Treatment and Disposal	0.31	95.96
4239	Miscellaneous Durable Goods Merchant Wholesalers	0.30	96.25
7211	Traveler Accommodation	0.28	96.53
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	0.26	96.79

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
5613	Employment Services	0.26	97.04
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	0.22	97.27
3351	Electric Lighting Equipment Manufacturing	0.21	97.47
5629	Remediation and Other Waste Management Services	0.20	97.67
3323	Architectural and Structural Metals Manufacturing	0.18	97.85
2371	Utility System Construction	0.17	98.01
4246	Chemical and Allied Products Merchant Wholesalers	0.16	98.18
5415	Computer Systems Design and Related Services	0.15	98.32
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	0.14	98.46
4442	Lawn and Garden Equipment and Supplies Stores	0.14	98.60
8111	Automotive Repair and Maintenance	0.13	98.73
4441	Building Material and Supplies Dealers	0.09	98.83
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	0.09	98.91
3273	Cement and Concrete Product Manufacturing	0.06	98.98
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	0.06	99.04
	Balance of industries (107 industry groups)	0.96	100.00
	<i>TOTAL - \$1,427,160,377</i>		

Source: See Table 2.1.

In IT (Table 2.10), we see that just two Industry Groups account for almost two-thirds of all award dollars, 9 Industry Groups account for 90 percent, and the remainder is distributed among 89 additional Industry Groups.

Table 2.10. Distribution of Contract and Subcontract Dollars Awarded by Industry Group, State Fiscal Years 2010-2014: IT

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
5415	Computer Systems Design and Related Services	48.62	48.62
3342	Communications Equipment Manufacturing	15.81	64.43
5112	Software Publishers	7.40	71.82
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	6.34	78.17
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	3.33	81.49
5416	Management, Scientific, and Technical Consulting Services	2.74	84.23

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
5613	Employment Services	2.28	86.51
2362	Nonresidential Building Construction	1.94	88.45
5418	Advertising, Public Relations, and Related Services	1.53	89.98
5413	Architectural, Engineering, and Related Services	1.23	91.21
2371	Utility System Construction	1.08	92.29
2381	Foundation, Structure, and Building Exterior Contractors	0.97	93.27
5614	Business Support Services	0.96	94.22
3341	Computer and Peripheral Equipment Manufacturing	0.79	95.01
5417	Scientific Research and Development Services	0.77	95.79
5171	Wired Telecommunications Carriers	0.59	96.37
6219	Other Ambulatory Health Care Services	0.52	96.89
5179	Other Telecommunications	0.49	97.39
5182	Data Processing, Hosting, and Related Services	0.42	97.81
6117	Educational Support Services	0.28	98.09
2383	Building Finishing Contractors	0.22	98.30
4431	Electronics and Appliance Stores	0.17	98.47
2382	Building Equipment Contractors	0.16	98.63
2389	Other Specialty Trade Contractors	0.15	98.78
5111	Newspaper, Periodical, Book, and Directory Publishers	0.15	98.93
3231	Printing and Related Support Activities	0.13	99.07
	Balance of industries (72 industry groups)	0.93	100.00
<i>TOTAL - \$1,977,040,832</i>			

Source: See Table 2.1.

In Services (Table 2.11), we see that six Industry Groups account for just over half of all award dollars, 14 Industry Groups account for three-fourths, and the remainder is distributed among 203 additional Industry Groups.

Table 2.11. Distribution of Contract and Subcontract Dollars Awarded by Industry Group, State Fiscal Years 2010-2014: Services

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
2211	Electric Power Generation, Transmission and Distribution	12.81	12.81
6219	Other Ambulatory Health Care Services	12.79	25.61
5611	Office Administrative Services	8.06	33.67

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
3399	Other Miscellaneous Manufacturing	7.78	41.45
5418	Advertising, Public Relations, and Related Services	5.91	47.36
4851	Urban Transit Systems	4.88	52.24
4821	Rail Transportation	4.07	56.30
6239	Other Residential Care Facilities	3.62	59.92
4859	Other Transit and Ground Passenger Transportation	3.61	63.52
5241	Insurance Carriers	3.34	66.87
5416	Management, Scientific, and Technical Consulting Services	3.10	69.97
5614	Business Support Services	1.91	71.88
5415	Computer Systems Design and Related Services	1.86	73.73
5413	Architectural, Engineering, and Related Services	1.39	75.13
6212	Offices of Dentists	1.39	76.51
5613	Employment Services	1.33	77.85
7223	Special Food Services	1.24	79.09
6241	Individual and Family Services	1.22	80.31
2212	Natural Gas Distribution	1.14	81.45
3342	Communications Equipment Manufacturing	1.08	82.53
4244	Grocery and Related Product Merchant Wholesalers	1.05	83.57
4247	Petroleum and Petroleum Products Merchant Wholesalers	0.83	84.40
4242	Drugs and Druggists' Sundries Merchant Wholesalers	0.74	85.14
3231	Printing and Related Support Activities	0.74	85.88
5191	Other Information Services	0.68	86.55
5151	Radio and Television Broadcasting	0.65	87.20
4853	Taxi and Limousine Service	0.63	87.83
5242	Agencies, Brokerages, and Other Insurance Related Activities	0.57	88.40
4543	Direct Selling Establishments	0.55	88.95
2213	Water, Sewage and Other Systems	0.54	89.49
3365	Railroad Rolling Stock Manufacturing	0.51	90.00
5617	Services to Buildings and Dwellings	0.51	90.51
5612	Facilities Support Services	0.48	90.99
2382	Building Equipment Contractors	0.47	91.46
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	0.42	91.88

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
8129	Other Personal Services	0.41	92.29
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	0.38	92.67
5615	Travel Arrangement and Reservation Services	0.32	93.00
5172	Wireless Telecommunications Carriers (except Satellite)	0.32	93.31
6214	Outpatient Care Centers	0.31	93.62
5179	Other Telecommunications	0.30	93.92
5616	Investigation and Security Services	0.30	94.22
5419	Other Professional, Scientific, and Technical Services	0.29	94.51
5111	Newspaper, Periodical, Book, and Directory Publishers	0.29	94.80
6232	Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities	0.28	95.08
5411	Legal Services	0.25	95.32
5311	Lessors of Real Estate	0.24	95.57
5221	Depository Credit Intermediation	0.23	95.79
6213	Offices of Other Health Practitioners	0.23	96.02
5121	Motion Picture and Video Industries	0.22	96.24
4855	Charter Bus Industry	0.22	96.46
9xxx	State or Local Government	0.19	96.65
4852	Interurban and Rural Bus Transportation	0.19	96.84
5417	Scientific Research and Development Services	0.18	97.03
5619	Other Support Services	0.17	97.20
5112	Software Publishers	0.17	97.36
4842	Specialized Freight Trucking	0.16	97.52
6216	Home Health Care Services	0.15	97.67
8111	Automotive Repair and Maintenance	0.12	97.79
5313	Activities Related to Real Estate	0.11	97.90
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	0.11	98.01
3254	Pharmaceutical and Medicine Manufacturing	0.10	98.11
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	0.09	98.19
5622	Waste Treatment and Disposal	0.08	98.28
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	0.08	98.35
4922	Local Messengers and Local Delivery	0.07	98.43

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
6211	Offices of Physicians	0.07	98.50
7139	Other Amusement and Recreation Industries	0.07	98.56
4241	Paper and Paper Product Merchant Wholesalers	0.07	98.63
5621	Waste Collection	0.07	98.70
7132	Gambling Industries	0.06	98.76
5629	Remediation and Other Waste Management Services	0.06	98.82
5182	Data Processing, Hosting, and Related Services	0.05	98.87
2379	Other Heavy and Civil Engineering Construction	0.05	98.92
5152	Cable and Other Subscription Programming	0.04	98.96
4542	Vending Machine Operators	0.04	99.00
	Balance of industries (141 industry groups)	1.00	100.00
<i>TOTAL - \$5,853,224,032</i>			

Source: See Table 2.1.

Finally, in CSE (Table 2.12), we see that just 10 Industry Groups account for almost half of all award dollars, 26 Industry Groups account for three-fourths, and the remainder is distributed among 194 additional Industry Groups.

Table 2.12. Distribution of Contract and Subcontract Dollars Awarded by Industry Group, State Fiscal Years 2010-2014: CSE

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
3361	Motor Vehicle Manufacturing	9.09	9.09
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	6.90	15.99
4411	Automobile Dealers	5.44	21.43
4246	Chemical and Allied Products Merchant Wholesalers	5.20	26.64
4244	Grocery and Related Product Merchant Wholesalers	4.78	31.42
3364	Aerospace Product and Parts Manufacturing	3.86	35.28
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	3.72	39.00
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	3.69	42.68
5172	Wireless Telecommunications Carriers (except Satellite)	3.39	46.07
7223	Special Food Services	3.15	49.23
2212	Natural Gas Distribution	2.96	52.19
4236	Household Appliances and Electrical and Electronic	2.93	55.12

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
	Goods Merchant Wholesalers		
3342	Communications Equipment Manufacturing	2.83	57.96
4532	Office Supplies, Stationery, and Gift Stores	2.00	59.96
5415	Computer Systems Design and Related Services	1.82	61.78
4247	Petroleum and Petroleum Products Merchant Wholesalers	1.64	63.42
2382	Building Equipment Contractors	1.61	65.03
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	1.60	66.63
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	1.60	68.23
3341	Computer and Peripheral Equipment Manufacturing	1.41	69.64
5112	Software Publishers	1.35	70.99
3231	Printing and Related Support Activities	0.90	71.89
2211	Electric Power Generation, Transmission and Distribution	0.87	72.76
4413	Automotive Parts, Accessories, and Tire Stores	0.85	73.61
4461	Health and Personal Care Stores	0.83	74.43
3365	Railroad Rolling Stock Manufacturing	0.80	75.23
3399	Other Miscellaneous Manufacturing	0.80	76.03
2213	Water, Sewage and Other Systems	0.75	76.78
3333	Commercial and Service Industry Machinery Manufacturing	0.74	77.53
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	0.74	78.26
4241	Paper and Paper Product Merchant Wholesalers	0.73	78.99
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	0.72	79.70
3259	Other Chemical Product and Preparation Manufacturing	0.71	80.41
2373	Highway, Street, and Bridge Construction	0.65	81.06
5111	Newspaper, Periodical, Book, and Directory Publishers	0.62	81.68
3391	Medical Equipment and Supplies Manufacturing	0.60	82.28
8111	Automotive Repair and Maintenance	0.59	82.87
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	0.58	83.45
3118	Bakeries and Tortilla Manufacturing	0.58	84.03
4842	Specialized Freight Trucking	0.54	84.57
4441	Building Material and Supplies Dealers	0.50	85.07
5413	Architectural, Engineering, and Related Services	0.48	85.55
4239	Miscellaneous Durable Goods Merchant Wholesalers	0.47	86.01
3331	Agriculture, Construction, and Mining Machinery	0.46	86.48

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
	Manufacturing		
3117	Seafood Product Preparation and Packaging	0.43	86.90
3351	Electric Lighting Equipment Manufacturing	0.42	87.32
4431	Electronics and Appliance Stores	0.40	87.72
1121	Cattle Ranching and Farming	0.38	88.11
4233	Lumber and Other Construction Materials Merchant Wholesalers	0.38	88.49
4881	Support Activities for Air Transportation	0.37	88.86
5417	Scientific Research and Development Services	0.36	89.22
3339	Other General Purpose Machinery Manufacturing	0.31	89.52
5171	Wired Telecommunications Carriers	0.30	89.82
4543	Direct Selling Establishments	0.29	90.12
3353	Electrical Equipment Manufacturing	0.28	90.40
4242	Drugs and Druggists' Sundries Merchant Wholesalers	0.27	90.67
6219	Other Ambulatory Health Care Services	0.26	90.93
3344	Semiconductor and Other Electronic Component Manufacturing	0.26	91.19
3332	Industrial Machinery Manufacturing	0.25	91.44
3323	Architectural and Structural Metals Manufacturing	0.25	91.69
3366	Ship and Boat Building	0.24	91.93
3359	Other Electrical Equipment and Component Manufacturing	0.24	92.16
4481	Clothing Stores	0.22	92.38
4232	Furniture and Home Furnishing Merchant Wholesalers	0.21	92.59
3261	Plastics Product Manufacturing	0.21	92.79
5416	Management, Scientific, and Technical Consulting Services	0.20	92.99
3329	Other Fabricated Metal Product Manufacturing	0.20	93.19
3254	Pharmaceutical and Medicine Manufacturing	0.19	93.38
3121	Beverage Manufacturing	0.18	93.55
3115	Dairy Product Manufacturing	0.18	93.73
5613	Employment Services	0.18	93.90
4541	Electronic Shopping and Mail-Order Houses	0.16	94.07
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	0.16	94.22
1142	Hunting and Trapping	0.15	94.37
2389	Other Specialty Trade Contractors	0.15	94.52
5191	Other Information Services	0.14	94.66
3272	Glass and Glass Product Manufacturing	0.14	94.80

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
4539	Other Miscellaneous Store Retailers	0.14	94.94
3363	Motor Vehicle Parts Manufacturing	0.14	95.07
3152	Cut and Sew Apparel Manufacturing	0.13	95.21
5614	Business Support Services	0.13	95.34
5322	Consumer Goods Rental	0.12	95.46
5616	Investigation and Security Services	0.12	95.59
8112	Electronic and Precision Equipment Repair and Maintenance	0.11	95.70
4889	Other Support Activities for Transportation	0.11	95.81
7211	Traveler Accommodation	0.11	95.92
4512	Book Stores and News Dealers	0.11	96.03
5418	Advertising, Public Relations, and Related Services	0.11	96.13
3241	Petroleum and Coal Products Manufacturing	0.10	96.24
2383	Building Finishing Contractors	0.10	96.34
5321	Automotive Equipment Rental and Leasing	0.10	96.44
4421	Furniture Stores	0.10	96.53
5612	Facilities Support Services	0.09	96.63
7225	Restaurants and Other Eating Places	0.09	96.72
5617	Services to Buildings and Dwellings	0.09	96.81
4882	Support Activities for Rail Transportation	0.09	96.90
4511	Sporting Goods, Hobby, and Musical Instrument Stores	0.09	96.98
5629	Remediation and Other Waste Management Services	0.08	97.07
4922	Local Messengers and Local Delivery	0.08	97.15
1123	Poultry and Egg Production	0.08	97.23
4412	Other Motor Vehicle Dealers	0.08	97.30
4452	Specialty Food Stores	0.08	97.38
2123	Nonmetallic Mineral Mining and Quarrying	0.07	97.45
5182	Data Processing, Hosting, and Related Services	0.07	97.53
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	0.07	97.60
4859	Other Transit and Ground Passenger Transportation	0.07	97.67
6213	Offices of Other Health Practitioners	0.07	97.74
6215	Medical and Diagnostic Laboratories	0.07	97.80
3119	Other Food Manufacturing	0.07	97.87
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.06	97.93
3324	Boiler, Tank, and Shipping Container Manufacturing	0.06	97.99

NAICS Industry Group	NAICS Description	Percentage	Cumulative Percentage
3312	Steel Product Manufacturing from Purchased Steel	0.06	98.06
2381	Foundation, Structure, and Building Exterior Contractors	0.06	98.12
2362	Nonresidential Building Construction	0.06	98.18
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	0.06	98.23
2371	Utility System Construction	0.05	98.29
5222	Nondepository Credit Intermediation	0.05	98.33
3251	Basic Chemical Manufacturing	0.05	98.38
5121	Motion Picture and Video Industries	0.05	98.43
5619	Other Support Services	0.05	98.48
4442	Lawn and Garden Equipment and Supplies Stores	0.05	98.53
3311	Iron and Steel Mills and Ferroalloy Manufacturing	0.05	98.57
3335	Metalworking Machinery Manufacturing	0.05	98.62
3321	Forging and Stamping	0.04	98.66
4542	Vending Machine Operators	0.04	98.71
3255	Paint, Coating, and Adhesive Manufacturing	0.04	98.75
3222	Converted Paper Product Manufacturing	0.04	98.79
5419	Other Professional, Scientific, and Technical Services	0.04	98.84
8123	Drycleaning and Laundry Services	0.04	98.88
3362	Motor Vehicle Body and Trailer Manufacturing	0.03	98.91
5152	Cable and Other Subscription Programming	0.03	98.94
6211	Offices of Physicians	0.03	98.98
3372	Office Furniture (including Fixtures) Manufacturing	0.03	99.01
	Balance of industries (88 industry groups)	0.99	100.00
	<i>TOTAL - \$2,048,499,182</i>		

Source: See Table 2.1.

The resulting percentage weights from these NAICS Sub-sectors, Groups, and Industries are used below in Chapter III to calculate average M/WBE availability figures for Construction, AE-CRS, Maintenance, IT, Services and CSE.³⁹

³⁹ After re-normalizing the percentage weights to sum to 100.

III. M/WBE Availability in the State of Maryland's Market Area

A. Introduction

Estimates of M/WBE availability are an important element of the State of Maryland's disparity study since they provide benchmarks for assessing the effectiveness of its efforts to encourage M/WBE participation in its contracting and procurement. In addition, they provide a means by which to establish overall goals as well as contract-level goals for M/WBE participation that are tailored to its relevant market area.

Many approaches to estimating availability suffer from internal inconsistency since the data employed to construct the availability numerator (*i.e.*, the total number of M/WBE establishments in the market area) are measured differently than the data employed to construct the availability denominator (*i.e.*, the total number of establishments in the market area). For example, the numerator might be drawn from an agency's internal list of certified M/WBEs while the denominator might be drawn from Census data. Since the methods used to identify and certify firms as M/WBEs are different from the methods used by the Census Bureau to count business establishments, such approaches inevitably compare "apples to oranges."

For this Study, we measure availability using an approach that ensures an "apples to apples" comparison between the availability numerator and denominator. This "Custom Census" method was pioneered by NERA and has been favorably reviewed by each court that has examined it to date. The Tenth Circuit found the custom census approach to be "a more sophisticated method to calculate availability than the earlier studies [by the other consultant in this case]."⁴⁰ Likewise, this method was successful in the defense of the DBE programs for Minnesota DOT⁴¹ and Illinois DOT,⁴² the M/WBE construction program for the City of Chicago,⁴³ and, most recently, in the successful defense of a DBE program challenge to U.S. DOT, the Illinois DOT, and the Illinois State Toll Highway Authority.⁴⁴

In addition to its favorable reception in the courts,⁴⁵ when properly executed, the Custom Census method is superior to other approaches for at least three reasons. First, as already mentioned, it provides an internally consistent and rigorous "apples to apples" comparison between establishments in the availability numerator and those in the denominator. Second, it comports with the remedial nature of most M/WBE policies by measuring overall M/WBE availability in

⁴⁰ *Concrete Works of Colorado, Inc. v. City and County of Denver*, 321 F.3d 950, 966 (10th Cir. 2003) ("*Concrete Works IV*"), *cert. denied*, 540 U.S. 1027 (2003).

⁴¹ *Sherbrooke Turf, Inc. v. Minnesota Department of Transportation*, 345 F.3d 964 (8th Cir. 2003), *cert. denied*, 541 U.S. 1041 (2004).

⁴² *Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715 (7th Cir. 2007).

⁴³ *Builders Ass'n of Greater Chicago v. City of Chicago*, 298 F.Supp. 2d 725 (N.D. Ill. 2003).

⁴⁴ *Midwest Fence Corp. v. United States Department of Transportation, et al.*, 84 F.Supp. 3d 705 (N.D. Ill. 2015), *aff'd*, 2016 U.S App. LEXIS 19959 (7th Cir. November 4, 2016).

⁴⁵ See Wainwright and Holt (2010, pp. 30-44).

the relevant market area as opposed to only those businesses currently certified by an agency.⁴⁶ Third, a properly executed Custom Census is less likely to be tainted by the effects of past and present discrimination than other methods.⁴⁷

The Custom Census method has seven steps. These are:

1. Create a database of representative and recent State of Maryland contracts in Construction, AE-CRS, Maintenance, IT, Services and CSE;
2. Identify the State's relevant geographic market from this database;
3. Identify the State's relevant product market from this database;
4. Count all business establishments in the relevant market area;
5. Identify listed M/WBE establishments in the relevant market area;
6. Verify the ownership status of listed M/WBEs; and
7. Verify the ownership status of all other firms in the relevant market area.

Steps 1-3 were described above in Chapter II. Steps 4-7 are described in more detail below.

B. Identifying Business Establishments in the Relevant Markets

M/WBE availability (unweighted) is defined as the number of M/WBEs divided by the total number of business establishments in the State of Maryland's contracting market area—what we will refer to as the Baseline Business Universe.⁴⁸ Determining the total number of business establishments in the market area, however, is a less complex task than determining the number of minority- or women-owned establishments in those markets. The latter has three main parts: (1) identify all listed M/WBEs in the relevant market; (2) verify the ownership status of listed M/WBEs; and (3) estimate the number of unlisted M/WBEs in the relevant market. This section describes how these tasks were accomplished.

It is important to note that NERA's availability analysis is free from variables tainted by discrimination. Our approach recognizes that discrimination may impact many of the variables that contribute to a firm's success in obtaining work as a prime or a subcontractor. Factors such as firm size, time in business, qualifications, and experience are all adversely affected by discrimination if it is present in the market area. Despite the obvious relationship, some

⁴⁶ See *Northern Contracting*, 473 F.3d at 723 (“We agree with the district court that the remedial nature of the federal scheme militates in favor of a method of DBE availability calculation that casts a broader net.”).

⁴⁷ See Section B.5., below, for further discussion of this point.

⁴⁸ To yield a percentage, the resulting figure is multiplied by 100.

commentators argue that disparities should only be assessed between firms with similar “capacities.”⁴⁹

Several courts have properly refused to make the results of discrimination the benchmark for non-discrimination.⁵⁰ They have acknowledged that M/WBEs may be smaller, newer, and otherwise less competitive than non-M/WBEs *because of* the very discrimination sought to be remedied by race-conscious contracting programs. Racial and gender differences in these “capacity” factors are the *outcomes* of discrimination and it is therefore inappropriate as a matter of economics and statistics to use them as “control” variables in a disparity study.⁵¹

1. Estimate the Total Number of Business Establishments in the Market

We used data supplied by Dun & Bradstreet to determine the total number of business establishments operating in the relevant geographic and product markets (these markets were discussed in the previous chapter). Dun & Bradstreet produces the most comprehensive publicly available database of business establishments in the U.S. This database contains over 17 million U.S. records and is updated continuously. Each record in Dun & Bradstreet represents a business establishment and includes the business name, address, telephone number, NAICS code, SIC code, business type, DUNS Number (a unique number assigned to each establishment by Dun & Bradstreet), and other descriptive information. Dun & Bradstreet gathers and verifies information from many different sources. These sources include, among others, annual management interviews, payment experiences, bank account information, filings for suits, liens, judgments and bankruptcies, news items, the U.S. Postal Service, utility and telephone service, business registrations, corporate charters, Uniform Commercial Code filings, and records of the Small Business Administration and other governmental agencies.

We used the Dun & Bradstreet database to identify the total number of businesses in each NAICS code that was identified as part of the State’s product market. Table 3.1 shows the number of businesses identified in each NAICS Industry Group within the Construction

⁴⁹ See, e.g., *La Noue* (2006). Most of La Noue’s expert report in *Gross Seed Company v. Nebraska Department of Roads*, No. 02-3016 (D. Neb. 2002), including his views on “capacity,” was rejected by the court on the basis that it was legal opinion and not expert analysis. According to the court, “[legal analysis] is an issue solely for the Court and not for the presentation of expert testimony....” (see Defendants-Appellees’ Brief, *Gross Seed Company v. Nebraska Department of Roads*, on appeal to the Eighth Circuit Court of Appeals).

⁵⁰ *North Shore Concrete and Assoc., Inc. v. City of New York*, No. 94-CV-4017, 1998 WL 273027 at *24-31 (E.D.N.Y. April 12, 1998) (firm size not a proper measure of capacity); *Concrete Works of Colorado, Inc. v. City and County of Denver, et al.*, 321 F.3d 950, 981, 983 (10th Cir. 2003), *cert. denied*, 540 U.S. 1027 (2003) (“MWBE construction firms are generally smaller and less experienced *because of* discrimination.... Additionally, we do not read *Croson* to require disparity studies that measure whether construction firms are able to perform a *particular contract*.” (emphasis in the originals)). See also *Northern Contracting, Inc. v. State of Illinois, et al.*, 473 F.3d 715, 723 (7th Cir. 2007) (“We agree with the district court that the remedial nature of the federal scheme militates in favor of a method of DBE availability calculation that casts a broader net [than a simple count of the number of registered and prequalified DBEs]”).

⁵¹ *Concrete Works*, 321 F.3d at 981 (emphasis in the original). See also Wainwright and Holt (2010), Appendix B “Understanding Capacity,” and Section B.5, below.

category, along with the associated industry weight according to dollars awarded. Comparable data for AE-CRS, Maintenance, IT, Services and CSE appear in Tables 3.2 through 3.6.⁵²

Although numerous industries are represented in the State of Maryland Baseline Business Universe, contracting and subcontracting opportunities are not distributed evenly among them. Indeed, the distribution of contract expenditures is quite skewed, as documented above in Chapter II.⁵³

Table 3.1. Construction—Number of Establishments and Industry Weight, by NAICS Code

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
2382	Building Equipment Contractors	9,358	22.19	22.19
2373	Highway, Street, and Bridge Construction	819	18.65	40.84
2381	Foundation, Structure, and Building Exterior Contractors	4,062	15.20	56.04
2362	Nonresidential Building Construction	2,462	10.73	66.77
2389	Other Specialty Trade Contractors	5,579	4.96	71.73
2383	Building Finishing Contractors	5,230	4.38	76.11
3323	Architectural and Structural Metals Manufacturing	328	2.54	78.64
4233	Lumber and Other Construction Materials Merchant Wholesalers	946	2.34	80.99
4247	Petroleum and Petroleum Products Merchant Wholesalers	212	2.12	83.10
2371	Utility System Construction	424	2.10	85.20
2379	Other Heavy and Civil Engineering Construction	230	1.80	87.01
4842	Specialized Freight Trucking	255	1.45	88.46
5413	Architectural, Engineering, and Related Services	7,638	0.87	89.33
5617	Services to Buildings and Dwellings	7,805	0.87	90.20
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	1,792	0.80	91.00
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	209	0.79	91.79
3273	Cement and Concrete Product Manufacturing	216	0.75	92.55
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	849	0.72	93.27
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	646	0.61	93.88
3351	Electric Lighting Equipment Manufacturing	57	0.60	94.48
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	1,037	0.51	94.99
5619	Other Support Services	66,060	0.42	95.41
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	236	0.40	95.81
5616	Investigation and Security Services	1,632	0.38	96.19

⁵² The industry weights in Tables 3.1 through 3.12 differ slightly from those that appear above in Tables 2.7 through 2.12, because the weights used in Chapter III through the end of the report are based on those industries that account for 99 percent of award and paid dollars, whereas the industry weights in Chapter II are based on 100 percent of award and paid dollars.

⁵³ Analogous sets of weights using paid dollars were also produced. They are similar and not published here due to space considerations.

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NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
4239	Miscellaneous Durable Goods Merchant Wholesalers	1,176	0.33	96.52
5415	Computer Systems Design and Related Services	15,405	0.28	96.81
3399	Other Miscellaneous Manufacturing	982	0.26	97.07
3219	Other Wood Product Manufacturing	267	0.25	97.32
5629	Remediation and Other Waste Management Services	312	0.23	97.55
4889	Other Support Activities for Transportation	2,373	0.21	97.77
2123	Nonmetallic Mineral Mining and Quarrying	14	0.15	97.92
3359	Other Electrical Equipment and Component Mfg.	195	0.15	98.07
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	986	0.14	98.22
4422	Home Furnishings Stores	1,333	0.14	98.36
5613	Employment Services	820	0.12	98.47
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	57	0.12	98.59
3311	Iron and Steel Mills and Ferroalloy Manufacturing	34	0.10	98.69
4441	Building Material and Supplies Dealers	1,061	0.10	98.79
4539	Other Miscellaneous Store Retailers	3,412	0.09	98.88
5416	Management, Scientific, and Technical Consulting Svcs.	16,376	0.08	98.96
3329	Other Fabricated Metal Product Manufacturing	67	0.08	99.04
4431	Electronics and Appliance Stores	2,498	0.07	99.11
3342	Communications Equipment Manufacturing	76	0.07	99.17
4884	Support Activities for Road Transportation	181	0.06	99.24
4442	Lawn and Garden Equipment and Supplies Stores	320	0.06	99.30
4821	Rail Transportation	38	0.06	99.36
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing	31	0.06	99.41
4232	Furniture and Home Furnishing Merchant Wholesalers	984	0.06	99.47
4543	Direct Selling Establishments	249	0.05	99.52
3365	Railroad Rolling Stock Manufacturing	13	0.05	99.57
5312	Offices of Real Estate Agents and Brokers	10,953	0.05	99.62
3372	Office Furniture (including Fixtures) Manufacturing	61	0.05	99.67
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	53	0.05	99.72
2211	Electric Power Generation, Transmission and Distribution	311	0.05	99.76
5621	Waste Collection	77	0.04	99.80
3339	Other General Purpose Machinery Manufacturing	9	0.03	99.83
5321	Automotive Equipment Rental and Leasing	436	0.03	99.86
3333	Commercial and Service Industry Machinery Manufacturing	106	0.03	99.89
5242	Agencies, Brokerages, and Other Insurance Related Activities	4,733	0.03	99.92
4931	Warehousing and Storage	512	0.03	99.95
4421	Furniture Stores	1,112	0.03	99.97
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	195	0.03	100.00

Sources: Dun & Bradstreet; M/WBE business directory information compiled by NERA. Notes: (1) The dollar-based industry weight and cumulative industry weight are expressed as percentages; (2) Cumulative percentages do not always sum to 100 because a very small number of NAICS codes identified as being in the study universe were not associated with establishments that had a presence in the market area.

Table 3.2. AE-CRS—Number of Establishments and Industry Weight, by NAICS Code

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
5413	Architectural, Engineering, and Related Services	10,060	88.19	88.19
5416	Management, Scientific, and Technical Consulting Services	42,256	3.80	91.99
2379	Other Heavy and Civil Engineering Construction	230	3.69	95.68
2373	Highway, Street, and Bridge Construction	819	0.93	96.61
5619	Other Support Services	66,060	0.79	97.39
2382	Building Equipment Contractors	5,438	0.56	97.95
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	61	0.51	98.46
6242	Community Food and Housing, and Emergency and Other Relief Services	11	0.40	98.86
5418	Advertising, Public Relations, and Related Services	653	0.33	99.19
5417	Scientific Research and Development Services	1,421	0.28	99.47
5415	Computer Systems Design and Related Services	8,755	0.26	99.73
5613	Employment Services	820	0.17	99.91
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	480	0.09	100.00

Source and Notes: See Table 3.1.

Table 3.3. Maintenance—Number of Establishments and Industry Weight, by NAICS Code

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
3365	Railroad Rolling Stock Manufacturing	13	22.08	22.08
4247	Petroleum and Petroleum Products Merchant Wholesalers	212	20.44	42.52
2382	Building Equipment Contractors	9,358	7.87	50.39
5612	Facilities Support Services	333	5.63	56.02
5616	Investigation and Security Services	1,983	4.96	60.98
5617	Services to Buildings and Dwellings	8,656	4.37	65.35
2373	Highway, Street, and Bridge Construction	819	4.21	69.56
2389	Other Specialty Trade Contractors	5,579	3.43	72.99
2381	Foundation, Structure, and Building Exterior Contractors	2,565	2.43	75.42
5614	Business Support Services	8,144	2.24	77.67
4852	Interurban and Rural Bus Transportation	32	1.95	79.62
4884	Support Activities for Road Transportation	181	1.67	81.29
2362	Nonresidential Building Construction	2,462	1.48	82.77
2379	Other Heavy and Civil Engineering Construction	230	1.35	84.12
4882	Support Activities for Rail Transportation	311	1.32	85.44
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	849	1.26	86.70
4543	Direct Selling Establishments	249	1.18	87.88
5413	Architectural, Engineering, and Related Services	5,696	1.05	88.93
4851	Urban Transit Systems	44	1.00	89.93
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	195	0.98	90.90
5621	Waste Collection	77	0.71	91.62
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	858	0.70	92.32
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	710	0.60	92.91
3342	Communications Equipment Manufacturing	271	0.54	93.45
4842	Specialized Freight Trucking	255	0.50	93.95
4233	Lumber and Other Construction Materials Merchant Wholesalers	946	0.40	94.35
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	1,181	0.39	94.74
4411	Automobile Dealers	1,352	0.38	95.12
3363	Motor Vehicle Parts Manufacturing	43	0.34	95.46
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	471	0.32	95.78
5622	Waste Treatment and Disposal	103	0.31	96.09
5416	Management, Scientific, and Technical Consulting Services	16,376	0.30	96.39
2383	Building Finishing Contractors	4,470	0.28	96.67
7211	Traveler Accommodation	2,275	0.28	96.95
4239	Miscellaneous Durable Goods Merchant Wholesalers	1,018	0.28	97.23
5613	Employment Services	2,016	0.26	97.49
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	600	0.23	97.72

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NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	52	0.21	97.93
3351	Electric Lighting Equipment Manufacturing	57	0.21	98.14
5629	Remediation and Other Waste Management Services	334	0.20	98.34
3323	Architectural and Structural Metals Manufacturing	206	0.18	98.51
4246	Chemical and Allied Products Merchant Wholesalers	201	0.16	98.67
2371	Utility System Construction	341	0.16	98.83
5415	Computer Systems Design and Related Services	15,862	0.15	98.98
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	209	0.14	99.12
4442	Lawn and Garden Equipment and Supplies Stores	320	0.14	99.26
8111	Automotive Repair and Maintenance	1,984	0.11	99.37
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	986	0.09	99.46
4441	Building Material and Supplies Dealers	747	0.08	99.54
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	53	0.06	99.60
4881	Support Activities for Air Transportation	79	0.06	99.66
3364	Aerospace Product and Parts Manufacturing	46	0.05	99.72
4921	Couriers and Express Delivery Services	211	0.05	99.77
4821	Rail Transportation	38	0.05	99.82
3273	Cement and Concrete Product Manufacturing	79	0.05	99.86
4885	Freight Transportation Arrangement	648	0.04	99.90
3339	Other General Purpose Machinery Manufacturing	13	0.04	99.94
6243	Vocational Rehabilitation Services	817	0.03	99.97
2211	Electric Power Generation, Transmission and Distribution	311	0.03	100.00

Source and Notes: See Table 3.1.

Table 3.4. IT—Number of Establishments and Industry Weight, by NAICS Code

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
5415	Computer Systems Design and Related Services	16,026	49.08	49.08
3342	Communications Equipment Manufacturing	240	15.95	65.04
5112	Software Publishers	1,145	7.47	72.50
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	600	6.36	78.86
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	849	3.34	82.20
5416	Management, Scientific, and Technical Consulting Services	40,498	2.74	84.94
5613	Employment Services	2,016	2.31	87.25
2362	Nonresidential Building Construction	2,462	1.96	89.21
5418	Advertising, Public Relations, and Related Services	653	1.54	90.75
5413	Architectural, Engineering, and Related Services	7,357	1.21	91.96
2371	Utility System Construction	83	1.09	93.05
5614	Business Support Services	43	0.95	94.00
2381	Foundation, Structure, and Building Exterior Contractors	2,806	0.89	94.89
3341	Computer and Peripheral Equipment Manufacturing	191	0.79	95.68
5417	Scientific Research and Development Services	1,747	0.78	96.46
5171	Wired Telecommunications Carriers	615	0.59	97.05
6219	Other Ambulatory Health Care Services	4,068	0.52	97.57
5179	Other Telecommunications	542	0.49	98.06
5182	Data Processing, Hosting, and Related Services	1,171	0.43	98.48
6117	Educational Support Services	741	0.28	98.76
4431	Electronics and Appliance Stores	2,498	0.17	98.94
2383	Building Finishing Contractors	768	0.16	99.10
5111	Newspaper, Periodical, Book, and Directory Publishers	306	0.15	99.24
2389	Other Specialty Trade Contractors	956	0.13	99.38
3231	Printing and Related Support Activities	1,359	0.13	99.51
2382	Building Equipment Contractors	3,845	0.13	99.64
3323	Architectural and Structural Metals Manufacturing	106	0.12	99.76
5414	Specialized Design Services	1,999	0.09	99.85
2379	Other Heavy and Civil Engineering Construction	230	0.08	99.93
5617	Services to Buildings and Dwellings	4,050	0.07	100.00

Source and Notes: See Table 3.1.

Table 3.5. Services—Number of Establishments and Industry Weight, by NAICS Code

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
2211	Electric Power Generation, Transmission and Distribution	311	12.94	12.94
6219	Other Ambulatory Health Care Services	4,068	12.92	25.86
5611	Office Administrative Services	5,740	8.14	34.00
3399	Other Miscellaneous Manufacturing	91	7.85	41.85
5418	Advertising, Public Relations, and Related Services	2,313	5.96	47.81
4851	Urban Transit Systems	44	4.92	52.73
4821	Rail Transportation	38	4.11	56.84
6239	Other Residential Care Facilities	389	3.65	60.49
4859	Other Transit and Ground Passenger Transportation	290	3.64	64.13
5241	Insurance Carriers	340	3.38	67.51
5416	Management, Scientific, and Technical Consulting Services	43,349	3.13	70.64
5614	Business Support Services	8,115	1.92	72.56
5415	Computer Systems Design and Related Services	15,862	1.87	74.43
5413	Architectural, Engineering, and Related Services	7,341	1.40	75.84
6212	Offices of Dentists	6,459	1.40	77.24
5613	Employment Services	2,016	1.33	78.57
7223	Special Food Services	75	1.24	79.81
6241	Individual and Family Services	4,624	1.23	81.04
2212	Natural Gas Distribution	71	1.15	82.19
3342	Communications Equipment Manufacturing	195	1.08	83.27
4244	Grocery and Related Product Merchant Wholesalers	884	1.04	84.32
4247	Petroleum and Petroleum Products Merchant Wholesalers	212	0.84	85.16
4242	Drugs and Druggists' Sundries Merchant Wholesalers	320	0.74	85.90
3231	Printing and Related Support Activities	1,359	0.74	86.64
5191	Other Information Services	340	0.68	87.32
5151	Radio and Television Broadcasting	202	0.65	87.97
4853	Taxi and Limousine Service	1,031	0.64	88.61
5242	Agencies, Brokerages, and Other Insurance Related Activities	4,793	0.57	89.18
4543	Direct Selling Establishments	249	0.55	89.73
2213	Water, Sewage and Other Systems	4	0.54	90.28
3365	Railroad Rolling Stock Manufacturing	13	0.52	90.80
5617	Services to Buildings and Dwellings	7,805	0.51	91.31
5612	Facilities Support Services	333	0.48	91.79
2382	Building Equipment Contractors	9,283	0.47	92.26
8129	Other Personal Services	311	0.42	92.68
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	4,500	0.41	93.08
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	117	0.36	93.44
5172	Wireless Telecommunications Carriers (except Satellite)	668	0.32	93.76
5615	Travel Arrangement and Reservation Services	110	0.32	94.08
6214	Outpatient Care Centers	744	0.31	94.39
5179	Other Telecommunications	542	0.30	94.69
6232	Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities	207	0.28	94.97
5111	Newspaper, Periodical, Book, and Directory Publishers	697	0.28	95.25

M/WBE Availability in the State of Maryland's Market Area

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
5419	Other Professional, Scientific, and Technical Services	1,684	0.27	95.52
5616	Investigation and Security Services	1,306	0.26	95.79
5411	Legal Services	14,464	0.25	96.03
5311	Lessors of Real Estate	798	0.24	96.27
5221	Depository Credit Intermediation	2,759	0.23	96.50
5121	Motion Picture and Video Industries	1,374	0.22	96.72
4855	Charter Bus Industry	104	0.22	96.94
6213	Offices of Other Health Practitioners	1,858	0.21	97.15
4852	Interurban and Rural Bus Transportation	32	0.19	97.34
5417	Scientific Research and Development Services	3,168	0.18	97.52
5619	Other Support Services	66,060	0.17	97.69
5112	Software Publishers	1,145	0.17	97.86
4842	Specialized Freight Trucking	255	0.16	98.02
6216	Home Health Care Services	1,253	0.15	98.17
5313	Activities Related to Real Estate	3,606	0.11	98.28
8111	Automotive Repair and Maintenance	4,708	0.11	98.39
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	1,256	0.10	98.49
3254	Pharmaceutical and Medicine Manufacturing	236	0.10	98.59
5622	Waste Treatment and Disposal	103	0.08	98.67
4922	Local Messengers and Local Delivery	166	0.07	98.75
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	487	0.06	98.81
7132	Gambling Industries	16	0.06	98.88
7139	Other Amusement and Recreation Industries	248	0.06	98.94
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	852	0.06	99.00
6211	Offices of Physicians	17,157	0.06	99.06
5621	Waste Collection	77	0.06	99.11
4241	Paper and Paper Product Merchant Wholesalers	15	0.05	99.17
5182	Data Processing, Hosting, and Related Services	1,171	0.05	99.22
2379	Other Heavy and Civil Engineering Construction	230	0.05	99.27
5629	Remediation and Other Waste Management Services	22	0.05	99.32
5152	Cable and Other Subscription Programming	220	0.04	99.36
4542	Vending Machine Operators	420	0.04	99.40
1133	Logging	67	0.04	99.44
2373	Highway, Street, and Bridge Construction	819	0.04	99.48
6117	Educational Support Services	741	0.03	99.51
2362	Nonresidential Building Construction	2,462	0.03	99.55
3351	Electric Lighting Equipment Manufacturing	29	0.03	99.58
4461	Health and Personal Care Stores	1,714	0.03	99.61
4411	Automobile Dealers	1,352	0.03	99.64
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	858	0.03	99.67
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	358	0.03	99.70
7211	Traveler Accommodation	2,275	0.03	99.72

M/WBE Availability in the State of Maryland's Market Area

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
8139	Business, Professional, Labor, Political, and Similar Organizations	667	0.02	99.75
6113	Colleges, Universities, and Professional Schools	861	0.02	99.77
2389	Other Specialty Trade Contractors	956	0.02	99.79
5414	Specialized Design Services	1,999	0.02	99.80

Source and Notes: See Table 3.1.

Table 3.6. CSE—Number of Establishments and Industry Weight, by NAICS Code

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
3361	Motor Vehicle Manufacturing	36	9.19	9.19
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	1,708	6.95	16.14
4411	Automobile Dealers	1,352	5.50	21.63
4246	Chemical and Allied Products Merchant Wholesalers	201	5.25	26.88
4244	Grocery and Related Product Merchant Wholesalers	1,000	4.81	31.69
3364	Aerospace Product and Parts Manufacturing	132	3.90	35.60
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	505	3.75	39.35
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	2,097	3.72	43.07
5172	Wireless Telecommunications Carriers (except Satellite)	668	3.42	46.50
7223	Special Food Services	1,378	3.18	49.68
2212	Natural Gas Distribution	71	2.99	52.68
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	998	2.96	55.64
3342	Communications Equipment Manufacturing	271	2.86	58.50
4532	Office Supplies, Stationery, and Gift Stores	258	2.02	60.51
5415	Computer Systems Design and Related Services	15,862	1.84	62.35
4247	Petroleum and Petroleum Products Merchant Wholesalers	246	1.66	64.01
2382	Building Equipment Contractors	9,358	1.63	65.63
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	2,276	1.62	67.25
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	710	1.61	68.86
3341	Computer and Peripheral Equipment Manufacturing	293	1.42	70.29
5112	Software Publishers	1,145	1.36	71.65
3231	Printing and Related Support Activities	1,359	0.91	72.56
2211	Electric Power Generation, Transmission and Distribution	351	0.88	73.44
4413	Automotive Parts, Accessories, and Tire Stores	1,437	0.86	74.30
4461	Health and Personal Care Stores	905	0.83	75.13
3365	Railroad Rolling Stock Manufacturing	13	0.81	75.94
3399	Other Miscellaneous Manufacturing	1,230	0.77	76.71
2213	Water, Sewage and Other Systems	4	0.76	77.47
3333	Commercial and Service Industry Machinery Manufacturing	163	0.75	78.22
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	646	0.74	78.95
4241	Paper and Paper Product Merchant Wholesalers	341	0.73	79.69
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	21	0.72	80.41
3259	Other Chemical Product and Preparation Manufacturing	73	0.71	81.12
2373	Highway, Street, and Bridge Construction	819	0.66	81.78
5111	Newspaper, Periodical, Book, and Directory Publishers	954	0.61	82.39
3391	Medical Equipment and Supplies Manufacturing	281	0.60	82.99
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	1,028	0.59	83.58
3118	Bakeries and Tortilla Manufacturing	709	0.58	84.17
8111	Automotive Repair and Maintenance	5,921	0.58	84.75

M/WBE Availability in the State of Maryland's Market Area

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
4842	Specialized Freight Trucking	255	0.54	85.29
4441	Building Material and Supplies Dealers	1,423	0.50	85.79
5413	Architectural, Engineering, and Related Services	7,638	0.48	86.27
4239	Miscellaneous Durable Goods Merchant Wholesalers	1,176	0.47	86.74
3331	Agriculture, Construction, and Mining Machinery Manufacturing	86	0.46	87.20
3117	Seafood Product Preparation and Packaging	21	0.43	87.63
3351	Electric Lighting Equipment Manufacturing	57	0.42	88.05
4431	Electronics and Appliance Stores	2,498	0.40	88.45
1121	Cattle Ranching and Farming	339	0.39	88.84
4233	Lumber and Other Construction Materials Merchant Wholesalers	869	0.39	89.23
4881	Support Activities for Air Transportation	79	0.37	89.60
5417	Scientific Research and Development Services	1,747	0.35	89.95
5171	Wired Telecommunications Carriers	615	0.30	90.25
3339	Other General Purpose Machinery Manufacturing	158	0.29	90.54
4543	Direct Selling Establishments	249	0.29	90.83
3353	Electrical Equipment Manufacturing	113	0.28	91.12
4242	Drugs and Druggists' Sundries Merchant Wholesalers	320	0.28	91.39
6219	Other Ambulatory Health Care Services	4,068	0.25	91.65
3323	Architectural and Structural Metals Manufacturing	256	0.25	91.89
3366	Ship and Boat Building	109	0.24	92.14
3344	Semiconductor and Other Electronic Component Manufacturing	171	0.24	92.37
3359	Other Electrical Equipment and Component Manufacturing	222	0.23	92.60
3332	Industrial Machinery Manufacturing	48	0.23	92.83
4232	Furniture and Home Furnishing Merchant Wholesalers	984	0.21	93.04
4481	Clothing Stores	886	0.20	93.24
5416	Management, Scientific, and Technical Consulting Services	42,256	0.20	93.43
3261	Plastics Product Manufacturing	129	0.19	93.62
3254	Pharmaceutical and Medicine Manufacturing	365	0.19	93.81
3115	Dairy Product Manufacturing	69	0.18	93.99
3121	Beverage Manufacturing	69	0.18	94.17
3329	Other Fabricated Metal Product Manufacturing	98	0.18	94.34
5613	Employment Services	2,016	0.17	94.52
4541	Electronic Shopping and Mail-Order Houses	499	0.16	94.68
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	63	0.16	94.84
1142	Hunting and Trapping	63	0.15	94.99
2389	Other Specialty Trade Contractors	5,579	0.15	95.14
5191	Other Information Services	295	0.14	95.28
4539	Other Miscellaneous Store Retailers	3,412	0.14	95.42
3152	Cut and Sew Apparel Manufacturing	102	0.14	95.55
3272	Glass and Glass Product Manufacturing	69	0.14	95.69
3363	Motor Vehicle Parts Manufacturing	75	0.13	95.82
5614	Business Support Services	8,032	0.12	95.94
5616	Investigation and Security Services	1,632	0.12	96.06

M/WBE Availability in the State of Maryland's Market Area

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
5322	Consumer Goods Rental	338	0.11	96.18
4889	Other Support Activities for Transportation	2,373	0.11	96.29
8112	Electronic and Precision Equipment Repair and Maintenance	1,316	0.11	96.40
7211	Traveler Accommodation	2,275	0.11	96.51
4512	Book Stores and News Dealers	511	0.11	96.62
3241	Petroleum and Coal Products Manufacturing	64	0.11	96.72
4421	Furniture Stores	1,112	0.10	96.82
5612	Facilities Support Services	333	0.09	96.91
5617	Services to Buildings and Dwellings	11,279	0.09	97.01
7225	Restaurants and Other Eating Places	20,165	0.09	97.10
5321	Automotive Equipment Rental and Leasing	479	0.09	97.19
4882	Support Activities for Rail Transportation	311	0.09	97.28
4511	Sporting Goods, Hobby, and Musical Instrument Stores	1,525	0.09	97.36
2383	Building Finishing Contractors	4,470	0.08	97.44
4922	Local Messengers and Local Delivery	166	0.08	97.52
1123	Poultry and Egg Production	21	0.08	97.60
5418	Advertising, Public Relations, and Related Services	953	0.08	97.68
5629	Remediation and Other Waste Management Services	269	0.07	97.76
5182	Data Processing, Hosting, and Related Services	1,171	0.07	97.83
4452	Specialty Food Stores	168	0.07	97.91
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	858	0.07	97.98
4859	Other Transit and Ground Passenger Transportation	290	0.07	98.05
2123	Nonmetallic Mineral Mining and Quarrying	24	0.07	98.12
4412	Other Motor Vehicle Dealers	833	0.07	98.19
6213	Offices of Other Health Practitioners	2,501	0.07	98.26
6215	Medical and Diagnostic Laboratories	522	0.07	98.32
3312	Steel Product Manufacturing from Purchased Steel	11	0.06	98.39
2362	Nonresidential Building Construction	2,462	0.06	98.45
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	291	0.06	98.50
3119	Other Food Manufacturing	98	0.06	98.56
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing	79	0.05	98.61
2371	Utility System Construction	341	0.05	98.66
3324	Boiler, Tank, and Shipping Container Manufacturing	4	0.05	98.71
5222	Nondepository Credit Intermediation	401	0.05	98.76
5121	Motion Picture and Video Industries	1,374	0.05	98.81
3311	Iron and Steel Mills and Ferroalloy Manufacturing	34	0.05	98.86
4542	Vending Machine Operators	420	0.04	98.90
3321	Forging and Stamping	18	0.04	98.95
4442	Lawn and Garden Equipment and Supplies Stores	320	0.04	98.99
3335	Metalworking Machinery Manufacturing	36	0.04	99.03
5619	Other Support Services	66,060	0.04	99.07
3255	Paint, Coating, and Adhesive Manufacturing	43	0.04	99.11
2381	Foundation, Structure, and Building Exterior Contractors	1,037	0.04	99.15
5419	Other Professional, Scientific, and Technical Services	15,274	0.04	99.19
3362	Motor Vehicle Body and Trailer Manufacturing	20	0.04	99.22

M/WBE Availability in the State of Maryland's Market Area

NAICS Code	NAICS Description	Number of Establishments	Industry Weight	Cumulative Industry Weight
5152	Cable and Other Subscription Programming	220	0.04	99.26
3251	Basic Chemical Manufacturing	123	0.03	99.29
6211	Offices of Physicians	17,157	0.03	99.33
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing	40	0.03	99.36
5622	Waste Treatment and Disposal	103	0.03	99.39
8123	Drycleaning and Laundry Services	1,359	0.03	99.42
3116	Animal Slaughtering and Processing	22	0.03	99.44
3379	Other Furniture Related Product Manufacturing	10	0.03	99.47
4884	Support Activities for Road Transportation	181	0.03	99.49
3222	Converted Paper Product Manufacturing	13	0.02	99.52
5313	Activities Related to Real Estate	670	0.02	99.54
3372	Office Furniture (including Fixtures) Manufacturing	17	0.02	99.57
2379	Other Heavy and Civil Engineering Construction	230	0.02	99.59
3326	Spring and Wire Product Manufacturing	31	0.02	99.61
6214	Outpatient Care Centers	243	0.02	99.63
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	195	0.02	99.65
4885	Freight Transportation Arrangement	648	0.02	99.67
1125	Aquaculture	30	0.02	99.69
4245	Farm Product Raw Material Merchant Wholesalers	89	0.02	99.71
3262	Rubber Product Manufacturing	31	0.02	99.73
5221	Depository Credit Intermediation	2,759	0.02	99.75
4841	General Freight Trucking	4,049	0.02	99.77
3343	Audio and Video Equipment Manufacturing	94	0.02	99.79
3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing	26	0.02	99.80
5179	Other Telecommunications	2,015	0.02	99.82
5242	Agencies, Brokerages, and Other Insurance Related Activities	4,733	0.02	99.84
3219	Other Wood Product Manufacturing	33	0.02	99.85
3273	Cement and Concrete Product Manufacturing	89	0.02	99.87
5615	Travel Arrangement and Reservation Services	2,156	0.02	99.89
3274	Lime and Gypsum Product Manufacturing	3	0.02	99.90
1152	Support Activities for Animal Production	493	0.02	99.92
5411	Legal Services	14,464	0.02	99.93
6117	Educational Support Services	741	0.01	99.95
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	209	0.01	99.96
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing	31	0.01	99.97
6212	Offices of Dentists	6,459	0.01	99.99
7139	Other Amusement and Recreation Industries	3,689	0.01	100.00

Source and Notes: See Table 3.1.

2. Identify Listed M/WBEs

While extensive, Dun & Bradstreet does not sufficiently identify all businesses owned by minorities or women. Although many such businesses *are* correctly identified in Dun & Bradstreet, experience has demonstrated that many are also missed. For this reason, several additional steps were required to identify the appropriate percentage of M/WBEs in the relevant market.

First, NERA completed an intensive regional search for information on minority-owned and woman-owned businesses in the Maryland market area. Beyond the information already in Dun & Bradstreet, NERA's master directory included lists of M/WBEs from other public and private entities. Specifically, directories were included from: Maryland Department of Transportation, Anne Arundel County, Charles County, City of Baltimore, Coppin State University, Delaware Department of Transportation, Diversity Information Resources, DiversityBusiness.com, Howard County, Montgomery County, Prince George County Public Schools, Small Business Administration, U.S. Department of Commerce Minority Business Development Agency, and the West Virginia Department of Transportation.⁵⁴

Tables 3.7 through 3.12 show the listed M/WBEs in Construction, AE-CRS, Maintenance, IT, Services and CSE, respectively. If the listed M/WBEs identified in Tables 3.7 through 3.12 are in fact *all* M/WBEs and are the *only* M/WBEs among all of the establishments in the relevant market identified in Tables 3.1 through 3.6, then an estimate of "listed" M/WBE availability is simply the number of listed M/WBEs divided by the total number of establishments in the relevant market. However, as we shall see below, neither of these two conditions holds true in practice and this is therefore *not* an appropriate method for measuring M/WBE availability.

There are two reasons for this. First, it is likely that some proportion of the M/WBEs listed in the tables is not actually minority-owned or women-owned. Second, it is likely that there are additional "unlisted" M/WBEs among all of the establishments included in Tables 3.1 through 3.6. Such businesses do not appear in any of the directories we gathered and are therefore not included as M/WBEs in these tables. Additional steps are required to test these two conditions and to arrive at a more accurate representation of M/WBE availability within the Baseline Business Universe. We discuss these steps below in Sections 3.a and 3.b.

⁵⁴ We also obtained information from certain entities that was duplicative of either Dun & Bradstreet or one or more of the other sources listed above. These entities are listed below in Appendix D. We were unable to obtain relevant lists or directories from a number of entities. The reasons for this include: (1) the entity did not have a list or the entity's list did not include race and sex information; (2) the entity was unresponsive to repeated attempts at contacts; or, (3) the entity simply declined to provide us the list. These entities, as well, are listed in Appendix D.

M/WBE Availability in the State of Maryland's Market Area

Table 3.7. Construction—Number of Listed M/WBE Establishments and Industry Weight (Dollars Awarded), by NAICS Code

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
2382	Building Equipment Contractors	1,003	22.19	22.19
2373	Highway, Street, and Bridge Construction	164	18.65	40.84
2381	Foundation, Structure, and Building Exterior Contractors	492	15.20	56.04
2362	Nonresidential Building Construction	766	10.73	66.77
2389	Other Specialty Trade Contractors	516	4.96	71.73
2383	Building Finishing Contractors	558	4.38	76.11
3323	Architectural and Structural Metals Manufacturing	43	2.54	78.64
4233	Lumber and Other Construction Materials Merchant Wholesalers	95	2.34	80.99
4247	Petroleum and Petroleum Products Merchant Wholesalers	17	2.12	83.10
2371	Utility System Construction	85	2.10	85.20
2379	Other Heavy and Civil Engineering Construction	41	1.80	87.01
4842	Specialized Freight Trucking	67	1.45	88.46
5413	Architectural, Engineering, and Related Services	1,708	0.87	89.33
5617	Services to Buildings and Dwellings	1,575	0.87	90.20
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	227	0.80	91.00
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	17	0.79	91.79
3273	Cement and Concrete Product Manufacturing	15	0.75	92.55
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	120	0.72	93.27
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	62	0.61	93.88
3351	Electric Lighting Equipment Manufacturing	19	0.60	94.48
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	234	0.51	94.99
5619	Other Support Services	3,242	0.42	95.41
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	25	0.40	95.81
5616	Investigation and Security Services	406	0.38	96.19
4239	Miscellaneous Durable Goods Merchant Wholesalers	100	0.33	96.52
5415	Computer Systems Design and Related Services	5,875	0.28	96.81
3399	Other Miscellaneous Manufacturing	172	0.26	97.07
3219	Other Wood Product Manufacturing	9	0.25	97.32
5629	Remediation and Other Waste Management Services	42	0.23	97.55
4889	Other Support Activities for Transportation	119	0.21	97.77
2123	Nonmetallic Mineral Mining and Quarrying	1	0.15	97.92
3359	Other Electrical Equipment and Component Manufacturing	29	0.15	98.07
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	64	0.14	98.22
4422	Home Furnishings Stores	93	0.14	98.36
5613	Employment Services	209	0.12	98.47

M/WBE Availability in the State of Maryland's Market Area

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	10	0.12	98.59
3311	Iron and Steel Mills and Ferroalloy Manufacturing	1	0.10	98.69
4441	Building Material and Supplies Dealers	92	0.10	98.79
4539	Other Miscellaneous Store Retailers	382	0.09	98.88
5416	Management, Scientific, and Technical Consulting Services	5,554	0.08	98.96
3329	Other Fabricated Metal Product Manufacturing	14	0.08	99.04
4431	Electronics and Appliance Stores	265	0.07	99.11
3342	Communications Equipment Manufacturing	16	0.07	99.17
4884	Support Activities for Road Transportation	27	0.06	99.24
4442	Lawn and Garden Equipment and Supplies Stores	40	0.06	99.30
4821	Rail Transportation	1	0.06	99.36
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing	2	0.06	99.41
4232	Furniture and Home Furnishing Merchant Wholesalers	151	0.06	99.47
4543	Direct Selling Establishments	22	0.05	99.52
3365	Railroad Rolling Stock Manufacturing	2	0.05	99.57
5312	Offices of Real Estate Agents and Brokers	1,096	0.05	99.62
3372	Office Furniture (including Fixtures) Manufacturing	20	0.05	99.67
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	10	0.05	99.72
2211	Electric Power Generation, Transmission and Distribution	27	0.05	99.76
5621	Waste Collection	20	0.04	99.80
3339	Other General Purpose Machinery Manufacturing	1	0.03	99.83
5321	Automotive Equipment Rental and Leasing	10	0.03	99.86
3333	Commercial and Service Industry Machinery Manufacturing	20	0.03	99.89
5242	Agencies, Brokerages, and Other Insurance Related Activities	423	0.03	99.92
4931	Warehousing and Storage	51	0.03	99.95
4421	Furniture Stores	119	0.03	99.97
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	28	0.03	100.00

Source and Notes: See Table 3.1.

Table 3.8. AE-CRS—Number of Listed M/WBE Establishments and Industry Weight (Dollars Awarded), by NAICS Code

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
5413	Architectural, Engineering, and Related Services	1,925	88.19	88.19
5416	Management, Scientific, and Technical Consulting Services	11,120	3.80	91.99
2379	Other Heavy and Civil Engineering Construction	41	3.69	95.68
2373	Highway, Street, and Bridge Construction	164	0.93	96.61
5619	Other Support Services	3,242	0.79	97.39
2382	Building Equipment Contractors	440	0.56	97.95
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	14	0.51	98.46
6242	Community Food and Housing, and Emergency and Other Relief Services	1	0.40	98.86
5418	Advertising, Public Relations, and Related Services	160	0.33	99.19
5417	Scientific Research and Development Services	269	0.28	99.47
5415	Computer Systems Design and Related Services	3,661	0.26	99.73
5613	Employment Services	209	0.17	99.91
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	65	0.09	100.00

Source and Notes: See Table 3.1.

M/WBE Availability in the State of Maryland's Market Area

Table 3.9. Maintenance—Number of Listed M/WBE Establishments and Industry Weight (Dollars Awarded), by NAICS Code

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
3365	Railroad Rolling Stock Manufacturing	2	22.08	22.08
4247	Petroleum and Petroleum Products Merchant Wholesalers	17	20.44	42.52
2382	Building Equipment Contractors	1,003	7.87	50.39
5612	Facilities Support Services	145	5.63	56.02
5616	Investigation and Security Services	540	4.96	60.98
5617	Services to Buildings and Dwellings	1,651	4.37	65.35
2373	Highway, Street, and Bridge Construction	164	4.21	69.56
2389	Other Specialty Trade Contractors	516	3.43	72.99
2381	Foundation, Structure, and Building Exterior Contractors	340	2.43	75.42
5614	Business Support Services	1,026	2.24	77.67
4852	Interurban and Rural Bus Transportation	5	1.95	79.62
4884	Support Activities for Road Transportation	27	1.67	81.29
2362	Nonresidential Building Construction	766	1.48	82.77
2379	Other Heavy and Civil Engineering Construction	41	1.35	84.12
4882	Support Activities for Rail Transportation	37	1.32	85.44
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	120	1.26	86.70
4543	Direct Selling Establishments	22	1.18	87.88
5413	Architectural, Engineering, and Related Services	1,350	1.05	88.93
4851	Urban Transit Systems	16	1.00	89.93
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	28	0.98	90.90
5621	Waste Collection	20	0.71	91.62
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	40	0.70	92.32
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	43	0.60	92.91
3342	Communications Equipment Manufacturing	44	0.54	93.45
4842	Specialized Freight Trucking	67	0.50	93.95
4233	Lumber and Other Construction Materials Merchant Wholesalers	95	0.40	94.35
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	138	0.39	94.74
4411	Automobile Dealers	51	0.38	95.12
3363	Motor Vehicle Parts Manufacturing	3	0.34	95.46
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	35	0.32	95.78
5622	Waste Treatment and Disposal	21	0.31	96.09
5416	Management, Scientific, and Technical Consulting Services	5,554	0.30	96.39
2383	Building Finishing Contractors	507	0.28	96.67
7211	Traveler Accommodation	183	0.28	96.95
4239	Miscellaneous Durable Goods Merchant Wholesalers	86	0.28	97.23
5613	Employment Services	613	0.26	97.49

M/WBE Availability in the State of Maryland's Market Area

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	179	0.23	97.72
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	9	0.21	97.93
3351	Electric Lighting Equipment Manufacturing	19	0.21	98.14
5629	Remediation and Other Waste Management Services	50	0.20	98.34
3323	Architectural and Structural Metals Manufacturing	35	0.18	98.51
4246	Chemical and Allied Products Merchant Wholesalers	43	0.16	98.67
2371	Utility System Construction	55	0.16	98.83
5415	Computer Systems Design and Related Services	6,087	0.15	98.98
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	17	0.14	99.12
4442	Lawn and Garden Equipment and Supplies Stores	40	0.14	99.26
8111	Automotive Repair and Maintenance	174	0.11	99.37
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	64	0.09	99.46
4441	Building Material and Supplies Dealers	51	0.08	99.54
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	10	0.06	99.60
4881	Support Activities for Air Transportation	21	0.06	99.66
3364	Aerospace Product and Parts Manufacturing	8	0.05	99.72
4921	Couriers and Express Delivery Services	42	0.05	99.77
4821	Rail Transportation	1	0.05	99.82
3273	Cement and Concrete Product Manufacturing	2	0.05	99.86
4885	Freight Transportation Arrangement	141	0.04	99.90
3339	Other General Purpose Machinery Manufacturing	4	0.04	99.94
6243	Vocational Rehabilitation Services	81	0.03	99.97
2211	Electric Power Generation, Transmission and Distribution	27	0.03	100.00

Source and Notes: See Table 3.1.

M/WBE Availability in the State of Maryland's Market Area

Table 3.10. IT—Number of Listed M/WBE Establishments and Industry Weight (Dollars Awarded), by NAICS Code

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
5415	Computer Systems Design and Related Services	6,165	49.08	49.08
3342	Communications Equipment Manufacturing	34	15.95	65.04
5112	Software Publishers	195	7.47	72.50
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	179	6.36	78.86
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	120	3.34	82.20
5416	Management, Scientific, and Technical Consulting Services	10,735	2.74	84.94
5613	Employment Services	613	2.31	87.25
2362	Nonresidential Building Construction	766	1.96	89.21
5418	Advertising, Public Relations, and Related Services	160	1.54	90.75
5413	Architectural, Engineering, and Related Services	1,660	1.21	91.96
2371	Utility System Construction	30	1.09	93.05
5614	Business Support Services	10	0.95	94.00
2381	Foundation, Structure, and Building Exterior Contractors	313	0.89	94.89
3341	Computer and Peripheral Equipment Manufacturing	43	0.79	95.68
5417	Scientific Research and Development Services	381	0.78	96.46
5171	Wired Telecommunications Carriers	92	0.59	97.05
6219	Other Ambulatory Health Care Services	332	0.52	97.57
5179	Other Telecommunications	66	0.49	98.06
5182	Data Processing, Hosting, and Related Services	357	0.43	98.48
6117	Educational Support Services	297	0.28	98.76
4431	Electronics and Appliance Stores	265	0.17	98.94
2383	Building Finishing Contractors	86	0.16	99.10
5111	Newspaper, Periodical, Book, and Directory Publishers	43	0.15	99.24
2389	Other Specialty Trade Contractors	125	0.13	99.38
3231	Printing and Related Support Activities	265	0.13	99.51
2382	Building Equipment Contractors	544	0.13	99.64
3323	Architectural and Structural Metals Manufacturing	21	0.12	99.76
5414	Specialized Design Services	811	0.09	99.85
2379	Other Heavy and Civil Engineering Construction	41	0.08	99.93
5617	Services to Buildings and Dwellings	275	0.07	100.00

Source and Notes: See Table 3.1.

M/WBE Availability in the State of Maryland's Market Area

Table 3.11. Services—Number of Listed M/WBE Establishments and Industry Weight (Dollars Awarded), by NAICS Code

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
2211	Electric Power Generation, Transmission and Distribution	27	12.94	12.94
6219	Other Ambulatory Health Care Services	332	12.92	25.86
5611	Office Administrative Services	939	8.14	34.00
3399	Other Miscellaneous Manufacturing	26	7.85	41.85
5418	Advertising, Public Relations, and Related Services	572	5.96	47.81
4851	Urban Transit Systems	16	4.92	52.73
4821	Rail Transportation	1	4.11	56.84
6239	Other Residential Care Facilities	7	3.65	60.49
4859	Other Transit and Ground Passenger Transportation	109	3.64	64.13
5241	Insurance Carriers	31	3.38	67.51
5416	Management, Scientific, and Technical Consulting Services	11,632	3.13	70.64
5614	Business Support Services	1,026	1.92	72.56
5415	Computer Systems Design and Related Services	6,087	1.87	74.43
5413	Architectural, Engineering, and Related Services	1,671	1.40	75.84
6212	Offices of Dentists	505	1.40	77.24
5613	Employment Services	613	1.33	78.57
7223	Special Food Services	19	1.24	79.81
6241	Individual and Family Services	60	1.23	81.04
2212	Natural Gas Distribution	5	1.15	82.19
3342	Communications Equipment Manufacturing	28	1.08	83.27
4244	Grocery and Related Product Merchant Wholesalers	132	1.04	84.32
4247	Petroleum and Petroleum Products Merchant Wholesalers	17	0.84	85.16
4242	Drugs and Druggists' Sundries Merchant Wholesalers	50	0.74	85.90
3231	Printing and Related Support Activities	265	0.74	86.64
5191	Other Information Services	84	0.68	87.32
5151	Radio and Television Broadcasting	46	0.65	87.97
4853	Taxi and Limousine Service	109	0.64	88.61
5242	Agencies, Brokerages, and Other Insurance Related Activities	425	0.57	89.18
4543	Direct Selling Establishments	22	0.55	89.73
2213	Water, Sewage and Other Systems	1	0.54	90.28
3365	Railroad Rolling Stock Manufacturing	2	0.52	90.80
5617	Services to Buildings and Dwellings	1,575	0.51	91.31
5612	Facilities Support Services	145	0.48	91.79
2382	Building Equipment Contractors	984	0.47	92.26
8129	Other Personal Services	24	0.42	92.68
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	823	0.41	93.08
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	20	0.36	93.44
5172	Wireless Telecommunications Carriers (except Satellite)	39	0.32	93.76
5615	Travel Arrangement and Reservation Services	17	0.32	94.08

M/WBE Availability in the State of Maryland's Market Area

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
6214	Outpatient Care Centers	94	0.31	94.39
5179	Other Telecommunications	66	0.30	94.69
6232	Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities	22	0.28	94.97
5111	Newspaper, Periodical, Book, and Directory Publishers	85	0.28	95.25
5419	Other Professional, Scientific, and Technical Services	705	0.27	95.52
5616	Investigation and Security Services	286	0.26	95.79
5411	Legal Services	1,069	0.25	96.03
5311	Lessors of Real Estate	34	0.24	96.27
5221	Depository Credit Intermediation	29	0.23	96.50
5121	Motion Picture and Video Industries	363	0.22	96.72
4855	Charter Bus Industry	35	0.22	96.94
6213	Offices of Other Health Practitioners	230	0.21	97.15
4852	Interurban and Rural Bus Transportation	5	0.19	97.34
5417	Scientific Research and Development Services	650	0.18	97.52
5619	Other Support Services	3,242	0.17	97.69
5112	Software Publishers	195	0.17	97.86
4842	Specialized Freight Trucking	67	0.16	98.02
6216	Home Health Care Services	266	0.15	98.17
5313	Activities Related to Real Estate	120	0.11	98.28
8111	Automotive Repair and Maintenance	225	0.11	98.39
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	176	0.10	98.49
3254	Pharmaceutical and Medicine Manufacturing	32	0.10	98.59
5622	Waste Treatment and Disposal	21	0.08	98.67
4922	Local Messengers and Local Delivery	23	0.07	98.75
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	30	0.06	98.81
7132	Gambling Industries	1	0.06	98.88
7139	Other Amusement and Recreation Industries	14	0.06	98.94
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	180	0.06	99.00
6211	Offices of Physicians	1,225	0.06	99.06
5621	Waste Collection	20	0.06	99.11
4241	Paper and Paper Product Merchant Wholesalers	4	0.05	99.17
5182	Data Processing, Hosting, and Related Services	357	0.05	99.22
2379	Other Heavy and Civil Engineering Construction	41	0.05	99.27
5629	Remediation and Other Waste Management Services	8	0.05	99.32
5152	Cable and Other Subscription Programming	16	0.04	99.36
4542	Vending Machine Operators	44	0.04	99.40
1133	Logging	6	0.04	99.44
2373	Highway, Street, and Bridge Construction	164	0.04	99.48
6117	Educational Support Services	297	0.03	99.51
2362	Nonresidential Building Construction	766	0.03	99.55
3351	Electric Lighting Equipment Manufacturing	7	0.03	99.58
4461	Health and Personal Care Stores	47	0.03	99.61

M/WBE Availability in the State of Maryland's Market Area

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
4411	Automobile Dealers	51	0.03	99.64
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	40	0.03	99.67
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	74	0.03	99.70
7211	Traveler Accommodation	183	0.03	99.72
8139	Business, Professional, Labor, Political, and Similar Organizations	2	0.02	99.75
6113	Colleges, Universities, and Professional Schools	5	0.02	99.77
2389	Other Specialty Trade Contractors	125	0.02	99.79
5414	Specialized Design Services	811	0.02	99.80

Source and Notes: See Table 3.1.

M/WBE Availability in the State of Maryland's Market Area

Table 3.12. CSE—Number of Listed M/WBE Establishments and Industry Weight (Dollars Awarded), by NAICS Code

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
3361	Motor Vehicle Manufacturing	3	9.19	9.19
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	404	6.95	16.14
4411	Automobile Dealers	51	5.50	21.63
4246	Chemical and Allied Products Merchant Wholesalers	43	5.25	26.88
4244	Grocery and Related Product Merchant Wholesalers	146	4.81	31.69
3364	Aerospace Product and Parts Manufacturing	18	3.90	35.60
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	72	3.75	39.35
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	261	3.72	43.07
5172	Wireless Telecommunications Carriers (except Satellite)	39	3.42	46.50
7223	Special Food Services	255	3.18	49.68
2212	Natural Gas Distribution	5	2.99	52.68
4236	Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	137	2.96	55.64
3342	Communications Equipment Manufacturing	44	2.86	58.50
4532	Office Supplies, Stationery, and Gift Stores	51	2.02	60.51
5415	Computer Systems Design and Related Services	6,087	1.84	62.35
4247	Petroleum and Petroleum Products Merchant Wholesalers	21	1.66	64.01
2382	Building Equipment Contractors	1,003	1.63	65.63
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	206	1.62	67.25
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	43	1.61	68.86
3341	Computer and Peripheral Equipment Manufacturing	61	1.42	70.29
5112	Software Publishers	195	1.36	71.65
3231	Printing and Related Support Activities	265	0.91	72.56
2211	Electric Power Generation, Transmission and Distribution	32	0.88	73.44
4413	Automotive Parts, Accessories, and Tire Stores	50	0.86	74.30
4461	Health and Personal Care Stores	158	0.83	75.13
3365	Railroad Rolling Stock Manufacturing	2	0.81	75.94
3399	Other Miscellaneous Manufacturing	197	0.77	76.71
2213	Water, Sewage and Other Systems	1	0.76	77.47
3333	Commercial and Service Industry Machinery Manufacturing	30	0.75	78.22
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	62	0.74	78.95
4241	Paper and Paper Product Merchant Wholesalers	108	0.73	79.69
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	4	0.72	80.41
3259	Other Chemical Product and Preparation Manufacturing	12	0.71	81.12
2373	Highway, Street, and Bridge Construction	164	0.66	81.78
5111	Newspaper, Periodical, Book, and Directory Publishers	138	0.61	82.39

M/WBE Availability in the State of Maryland's Market Area

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
3391	Medical Equipment and Supplies Manufacturing	45	0.60	82.99
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	72	0.59	83.58
3118	Bakeries and Tortilla Manufacturing	117	0.58	84.17
8111	Automotive Repair and Maintenance	343	0.58	84.75
4842	Specialized Freight Trucking	67	0.54	85.29
4441	Building Material and Supplies Dealers	112	0.50	85.79
5413	Architectural, Engineering, and Related Services	1,708	0.48	86.27
4239	Miscellaneous Durable Goods Merchant Wholesalers	100	0.47	86.74
3331	Agriculture, Construction, and Mining Machinery Manufacturing	7	0.46	87.20
3117	Seafood Product Preparation and Packaging	3	0.43	87.63
3351	Electric Lighting Equipment Manufacturing	19	0.42	88.05
4431	Electronics and Appliance Stores	265	0.40	88.45
1121	Cattle Ranching and Farming	9	0.39	88.84
4233	Lumber and Other Construction Materials Merchant Wholesalers	88	0.39	89.23
4881	Support Activities for Air Transportation	21	0.37	89.60
5417	Scientific Research and Development Services	381	0.35	89.95
5171	Wired Telecommunications Carriers	92	0.30	90.25
3339	Other General Purpose Machinery Manufacturing	20	0.29	90.54
4543	Direct Selling Establishments	22	0.29	90.83
3353	Electrical Equipment Manufacturing	13	0.28	91.12
4242	Drugs and Druggists' Sundries Merchant Wholesalers	50	0.28	91.39
6219	Other Ambulatory Health Care Services	332	0.25	91.65
3323	Architectural and Structural Metals Manufacturing	38	0.25	91.89
3366	Ship and Boat Building	7	0.24	92.14
3344	Semiconductor and Other Electronic Component Manufacturing	28	0.24	92.37
3359	Other Electrical Equipment and Component Manufacturing	32	0.23	92.60
3332	Industrial Machinery Manufacturing	9	0.23	92.83
4232	Furniture and Home Furnishing Merchant Wholesalers	151	0.21	93.04
4481	Clothing Stores	166	0.20	93.24
5416	Management, Scientific, and Technical Consulting Services	11,120	0.20	93.43
3261	Plastics Product Manufacturing	22	0.19	93.62
3254	Pharmaceutical and Medicine Manufacturing	55	0.19	93.81
3115	Dairy Product Manufacturing	11	0.18	93.99
3121	Beverage Manufacturing	3	0.18	94.17
3329	Other Fabricated Metal Product Manufacturing	18	0.18	94.34
5613	Employment Services	613	0.17	94.52
4541	Electronic Shopping and Mail-Order Houses	94	0.16	94.68
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	13	0.16	94.84
1142	Hunting and Trapping	9	0.15	94.99
2389	Other Specialty Trade Contractors	516	0.15	95.14
5191	Other Information Services	75	0.14	95.28
4539	Other Miscellaneous Store Retailers	382	0.14	95.42

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NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
3152	Cut and Sew Apparel Manufacturing	27	0.14	95.55
3272	Glass and Glass Product Manufacturing	14	0.14	95.69
3363	Motor Vehicle Parts Manufacturing	4	0.13	95.82
5614	Business Support Services	1,008	0.12	95.94
5616	Investigation and Security Services	406	0.12	96.06
5322	Consumer Goods Rental	49	0.11	96.18
4889	Other Support Activities for Transportation	119	0.11	96.29
8112	Electronic and Precision Equipment Repair and Maintenance	255	0.11	96.40
7211	Traveler Accommodation	183	0.11	96.51
4512	Book Stores and News Dealers	80	0.11	96.62
3241	Petroleum and Coal Products Manufacturing	7	0.11	96.72
4421	Furniture Stores	119	0.10	96.82
5612	Facilities Support Services	145	0.09	96.91
5617	Services to Buildings and Dwellings	1,994	0.09	97.01
7225	Restaurants and Other Eating Places	1,679	0.09	97.10
5321	Automotive Equipment Rental and Leasing	13	0.09	97.19
4882	Support Activities for Rail Transportation	37	0.09	97.28
4511	Sporting Goods, Hobby, and Musical Instrument Stores	106	0.09	97.36
2383	Building Finishing Contractors	507	0.08	97.44
4922	Local Messengers and Local Delivery	23	0.08	97.52
1123	Poultry and Egg Production	3	0.08	97.60
5418	Advertising, Public Relations, and Related Services	238	0.08	97.68
5629	Remediation and Other Waste Management Services	28	0.07	97.76
5182	Data Processing, Hosting, and Related Services	357	0.07	97.83
4452	Specialty Food Stores	23	0.07	97.91
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	40	0.07	97.98
4859	Other Transit and Ground Passenger Transportation	109	0.07	98.05
2123	Nonmetallic Mineral Mining and Quarrying	1	0.07	98.12
4412	Other Motor Vehicle Dealers	49	0.07	98.19
6213	Offices of Other Health Practitioners	465	0.07	98.26
6215	Medical and Diagnostic Laboratories	58	0.07	98.32
3312	Steel Product Manufacturing from Purchased Steel	0	0.06	98.39
2362	Nonresidential Building Construction	766	0.06	98.45
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	56	0.06	98.50
3119	Other Food Manufacturing	18	0.06	98.56
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing	23	0.05	98.61
2371	Utility System Construction	55	0.05	98.66
3324	Boiler, Tank, and Shipping Container Manufacturing	0	0.05	98.71
5222	Nondepository Credit Intermediation	16	0.05	98.76
5121	Motion Picture and Video Industries	363	0.05	98.81
3311	Iron and Steel Mills and Ferroalloy Manufacturing	1	0.05	98.86
4542	Vending Machine Operators	44	0.04	98.90
3321	Forging and Stamping	5	0.04	98.95
4442	Lawn and Garden Equipment and Supplies Stores	40	0.04	98.99

M/WBE Availability in the State of Maryland's Market Area

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
3335	Metalworking Machinery Manufacturing	6	0.04	99.03
5619	Other Support Services	3,242	0.04	99.07
3255	Paint, Coating, and Adhesive Manufacturing	9	0.04	99.11
2381	Foundation, Structure, and Building Exterior Contractors	142	0.04	99.15
5419	Other Professional, Scientific, and Technical Services	2,112	0.04	99.19
3362	Motor Vehicle Body and Trailer Manufacturing	2	0.04	99.22
5152	Cable and Other Subscription Programming	16	0.04	99.26
3251	Basic Chemical Manufacturing	7	0.03	99.29
6211	Offices of Physicians	1,225	0.03	99.33
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing	1	0.03	99.36
5622	Waste Treatment and Disposal	21	0.03	99.39
8123	Drycleaning and Laundry Services	404	0.03	99.42
3116	Animal Slaughtering and Processing	2	0.03	99.44
3379	Other Furniture Related Product Manufacturing	0	0.03	99.47
4884	Support Activities for Road Transportation	27	0.03	99.49
3222	Converted Paper Product Manufacturing	3	0.02	99.52
5313	Activities Related to Real Estate	88	0.02	99.54
3372	Office Furniture (including Fixtures) Manufacturing	5	0.02	99.57
2379	Other Heavy and Civil Engineering Construction	41	0.02	99.59
3326	Spring and Wire Product Manufacturing	2	0.02	99.61
6214	Outpatient Care Centers	0	0.02	99.63
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	28	0.02	99.65
4885	Freight Transportation Arrangement	141	0.02	99.67
1125	Aquaculture	2	0.02	99.69
4245	Farm Product Raw Material Merchant Wholesalers	8	0.02	99.71
3262	Rubber Product Manufacturing	2	0.02	99.73
5221	Depository Credit Intermediation	29	0.02	99.75
4841	General Freight Trucking	429	0.02	99.77
3343	Audio and Video Equipment Manufacturing	24	0.02	99.79
3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing	2	0.02	99.80
5179	Other Telecommunications	229	0.02	99.82
5242	Agencies, Brokerages, and Other Insurance Related Activities	423	0.02	99.84
3219	Other Wood Product Manufacturing	4	0.02	99.85
3273	Cement and Concrete Product Manufacturing	9	0.02	99.87
5615	Travel Arrangement and Reservation Services	356	0.02	99.89
3274	Lime and Gypsum Product Manufacturing	0	0.02	99.90
1152	Support Activities for Animal Production	101	0.02	99.92
5411	Legal Services	1,069	0.02	99.93
6117	Educational Support Services	297	0.01	99.95
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	17	0.01	99.96
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing	2	0.01	99.97
6212	Offices of Dentists	505	0.01	99.99

M/WBE Availability in the State of Maryland's Market Area

NAICS Industry Group	NAICS Description	Number of Listed M/WBEs	Industry Weight	Cumulative Industry Weight
7139	Other Amusement and Recreation Industries	410	0.01	100.00

Source and Notes: See Table 3.1.

3. Verify Listed M/WBEs

a. Introduction

It is likely that the race and gender classifications for businesses from Dun & Bradstreet and the race and gender classifications from M/WBE directories are not correct in all instances. Phenomena such as ownership changes, associate or mentor status, recording errors, or even misrepresentation, will lead to businesses being listed as M/WBEs in a particular directory even though they may not actually be owned by such entities. Other things equal, this type of error would cause our availability estimate to be biased upward from the actual availability number.

The second likelihood that must be addressed is that not all M/WBE businesses are necessarily listed—either in Dun & Bradstreet or in any of the other directories we collected. Such phenomena as geographic relocation, ownership changes, directory compilation errors, fear of stigmatization, and limitations in M/WBE outreach, could all lead to such establishments being unlisted. Other things equal, this type of error would cause our availability estimate to be biased downward from the actual availability number.

In our experience, we have found that both types of bias are not uncommon. For this Study, we corrected for the effect of these biases using statistical sampling procedures. We surveyed a large, stratified random sample of 75,000 records drawn from the Baseline Business Universe and measured how often and how they were misclassified (or unclassified) by race and gender status.⁵⁵

Strata were defined according to NAICS industries and listed M/WBE status.⁵⁶ In the telephone survey, up to 10 attempts were made to reach each business and speak with an appropriate respondent. Attempts were scheduled for a mix of day and evening, weekdays and weekends, and appointments were scheduled for callbacks when necessary. Of the 75,000 establishments in our sample, 23,054 (31%) were listed M/WBEs and 51,946 (69%) were unclassified by race or gender. Of these 75,000 establishments, however, 14,875 (20%) were excluded as “unable to contact.” Exclusions resulted from a variety of reasons including disconnected and wrong phone numbers, and establishments that were no longer in business.⁵⁷ Of the remaining 60,125 establishments, 18,697 (31%) were listed M/WBEs and the remaining 41,428 establishments (69%) were unclassified.

The first part of the survey tested whether our sample of listed M/WBEs was correctly classified by race and/or gender. The second part of the survey tested whether the unclassified

⁵⁵ A similar method, with respect to M/WBE establishments, was employed by the Federal Reserve Board to deal with similar problems in designing and implementing the National Survey of Small Business Finances for 1993 and 1998. See Haggerty, C., K. Grigorian, R. Harter and J. D. Wolken (2000).

⁵⁶ A total of 270 separate industry strata were created based on NAICS code. All strata were then split according to listed M/WBE status to create a total of 540 strata. Generally, listed M/WBEs were sampled at a higher rate than unclassified establishments.

⁵⁷ Other reasons included changed ownership, duplicate records, and refusals. Putative M/WBEs were not more likely to be affected by this than putative non-M/WBEs.

establishments (that is, those putatively owned by nonminority males) could all be properly classified as non-M/WBEs. Both elements of the survey are described in more detail below.⁵⁸

b. Survey of Listed M/WBEs

We selected a stratified random sample of 23,054 listed M/WBEs to verify the race and gender status of their owner(s). Of these, 4,357 (19%) were excluded as “unable to contact.” Of the remaining 18,697 establishments, we obtained complete interviews from 5,435, for a response rate of 29 percent.

Of the 5,435 establishments interviewed, 1,568 (28.9%) were actually owned by nonminority males. Misclassification varied by putative race and gender, as shown in Table 3.13. Misclassification was highest among putative Native American-owned establishments, followed by putative Asian-owned establishments, then Hispanic-owned establishments, then nonminority female-owned establishments, and finally African American-owned establishments.⁵⁹ Misclassification was also observed in 89 percent of NAICS strata, ranging from a high of 100 percent to a low of 16.7 percent, with a median of 42.5 percent and a mean of 45.3 percent.

Table 3.13. Listed M/WBE Survey—Amount of Misclassification, by Putative M/WBE Type

Putative Race/Gender	Misclassification (Percentage Nonminority Male)	Misclassification (Percentage Other M/WBE Type)	Percentage Correctly Classified	Number of Businesses Interviewed
African American (either gender)	17.94	6.53	75.53	1,594
Hispanic (either gender)	33.21	15.69	51.70	530
Asian (either gender)	30.85	18.09	51.06	752
Native American (either gender)	37.21	30.23	32.56	86
Nonminority Female	34.05	13.47	52.49	2,473
All M/WBE Types	28.85	12.49	58.66	5,435

Source: NERA telephone surveys.

Notes: (1) Figures are rounded. Rounding was performed subsequent to any mathematical calculations. (2) Similar calculations, not shown here, were performed within each stratum.

⁵⁸ By “putative,” we mean the race and gender that we initially assigned to each firm based on the information provided by the State of Maryland, the Maryland DOT, Dun & Bradstreet, our master M/WBE directory, or from other sources.

⁵⁹ For this Study, “Black” or “African American” refers to an individual having origins in any of the black racial groups of Africa; “Hispanic” refers to an individual of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race; “Asian” refers to an individual having origins in the Far East, Southeast Asia, or the Indian subcontinent; “Native American” or “American Indian” refers to an individual having origins in any of the original peoples of North America but does not include individuals of Eskimo or Aleutian origin.

The race and gender status of the listed M/WBEs responding to the survey was changed, if necessary, according to the survey results. For example, if an establishment originally listed as African American-owned was actually nonminority male-owned, then that establishment was counted as nonminority male-owned for purposes of calculating M/WBE availability.

But what about the remaining putative African American-owned establishments that we did not interview? For these businesses, we estimated the race and gender of their ownership based on the amount of misclassification we observed among the putatively African American-owned establishments that we did interview. In this example, our interviews showed that 75.53 percent of these establishments were indeed actually African American-owned, 17.94 percent were actually nonminority male-owned, 4.27 percent were actually nonminority female-owned, 1.07 percent were actually Hispanic-owned, 0.75 percent were actually Native American-owned, and 0.44 percent were Asian-owned. Therefore, we assigned each of the remaining putative African American-owned establishments a 75.53 percent probability of being African American-owned, a 17.94 percent probability of being nonminority male-owned, a 4.27 percent probability of being nonminority female-owned, a 1.07 percent probability of being Hispanic-owned, a 0.75 percent probability of being Native American-owned, and a 0.44 percent probability of being Asian-owned. We performed this procedure within each sample stratum and for all putative race and gender categories.

4. Verify Putative Non-M/WBEs

a. Survey of Unclassified Businesses

In the same manner as our survey of listed M/WBEs, we also examined unclassified businesses, *i.e.*, any business that was not originally identified as an M/WBE, either in Dun & Bradstreet or in one or more of the other directories, and that would otherwise appear to be a non-M/WBE.

We selected a stratified random sample of 51,946 unclassified businesses. Of these, 10,518 (20%) were excluded as “unable to contact.” Of the 41,428 remaining establishments, we obtained 12,857 complete interviews, for a response rate of 31 percent.

In Table 3.14, of the 12,857 establishments interviewed, 9,835 (76.50%) were indeed owned by nonminority males. Clearly, a significant majority of unclassified businesses in the Baseline Business Universe are nonminority male-owned. Nevertheless, the survey results indicate that 23.50 percent of these establishments are *not* nonminority male-owned. Among the latter, the largest group was nonminority female-owned (10.55%), followed by African American-owned (6.27%), with descending size shares accounted for by Asian-owned (3.21%), Hispanic-owned (2.64%), and Native American-owned (0.83%). Misclassification was also observed in 91 percent of NAICS strata, ranging from a high of 100 percent to a low of 2.9 percent, with a median of 22.2 percent and a mean of 23.4 percent.

Table 3.14. Unclassified Businesses Survey—By Race and Gender

Verified Race/Gender	Number of Businesses Interviewed	Percentage of Total
Nonminority male	9,835	76.49
Nonminority female	1,356	10.55
African American (either gender)	806	6.27
Hispanic (either gender)	340	2.64
Asian (either gender)	413	3.21
Native American (either gender)	107	0.83
TOTAL	12,857	100.00

Source and Notes: See Table 3.13. Numbers may not add to total due to rounding.

In the same manner as the survey of listed M/WBEs, the race and gender status of unclassified establishments was changed, if necessary, according to the survey results. For example, if an interviewed establishment that was originally unclassified indicated that it was actually nonminority male-owned, then that establishment was counted as nonminority male-owned for purposes of the M/WBE availability calculation. If the establishment indicated it was nonminority female-owned, it was counted as nonminority female, and so on. For unclassified establishments that were not interviewed, we assigned probability values (probability actually nonminority male-owned, probability actually nonminority female-owned, probability actually African American-owned, *etc.*) based on the interview responses. We again carried out the probability assignment procedure within each stratum.

5. Understanding “Capacity”

As noted in the beginning of this chapter, some observers, primarily opponents of efforts to address discrimination in contracting, have argued that, in order to be accurate, availability estimates must be adjusted for “capacity.” These assertions are rarely accompanied by specific suggestions about how such adjustments could be made consistent with professional social science standards. This Study does adjust for certain appropriate characteristics of firms related to capacity (such as industry affiliation, geographic location, owner labor market experience, and educational attainment); however, we are careful to not adjust for capacity factors that are themselves likely to be influenced by discrimination. In our view, all of the “capacity” indicators recommended by program opponents (*e.g.*, firm age, annual individual firm revenues, number of employees, largest contract received, bonding limits) are subject to the impact of discrimination.

Further, the reality is that large, adverse statistical disparities between minority-owned or women-owned businesses and nonminority male-owned businesses have been documented in numerous research studies and reports since *Crosby*.⁶⁰ Business outcomes, however, can be

⁶⁰ See Enchautegui, et al. (1996). More recently, see Wainwright (2012), Wainwright (2010).

influenced by multiple factors, and it is important that disparity studies examine the likelihood of whether discrimination is an important contributing factor to observed disparities.

Moreover, terms such as “capacity,” “qualifications,” and “ability,” are not well defined in any statistical sense. Does “capacity” mean the level of annual individual firm revenues, employment size, bonding limits, or number of contracts bid or awarded? Does “qualified” or “able” mean possession of a business license, certain amounts of training, types of work experience, or the number of contracts a firm can perform at a given moment? What mix of business attributes properly reflects “capacity”? Does the meaning of such terms differ from industry to industry, locality to locality, or through time? Where and how might such data be reliably gathered? Even if capacity is well-defined and adequate data are gathered, when measuring the existence of discrimination, the statistical method used should not improperly limit the availability measure by incorporating factors that are themselves impacted by discrimination, such as firm age, annual individual firm revenues, bonding limits, or number of employees.

Consider an extreme example where discrimination has prevented the emergence of any minority-owned or women-owned firms. Suppose that discrimination was ingrained in a state's construction market. As a result, few minority or female construction employees are given the opportunity to gain managerial experience in the business; minorities or women who do end up starting construction firms are denied the opportunity to work as subcontractors for nonminority prime contractors; and nonminority prime contractors refuse to work with minority or female firms and put pressure on bonding companies and banks to prevent such firms from securing bonding and capital. In this example, discrimination has prevented the emergence of a minority or female highway construction industry with “capacity.” Those M/WBEs that exist at all will be smaller and less experienced and have lower annual individual firm revenues, bonding limits, and employees (*i.e.*, “capacity”) because of discrimination than firms that have benefited from the exclusionary system.

Using annual individual firm revenues as the measure of qualifications illustrates the point. If M/WBEs are subject to market area discrimination, their annual individual firm revenues will be smaller than nonminority, male-owned businesses because they will be less successful at obtaining work. Annual individual firm revenues measure the extent to which a firm has succeeded in the market area, perhaps in spite of discrimination—it does not measure the ability to succeed in the absence of discrimination and should not be used to evaluate the effects of discrimination.

Therefore, focusing on the “capacity” of businesses in terms of employment, annual individual firm revenues, bonding limits, number of trucks, and so forth, is simply wrong as a matter of economics because it can obscure the existence of discrimination. A truly “effective” discriminatory system would lead to a finding of no “capacity,” and under the “capacity” approach, a finding of no discrimination. Excluding firms from an availability measure based on their “capacity” in a discriminatory market merely affirms the results of discrimination rather than ameliorating them.

Further, in dynamic business environments, and especially in the construction sector, such “qualifications” or “capacity” can be obtained relatively easily. It is well known that small construction companies can expand rapidly as needs arise by hiring workers and renting

equipment, and many general contractors subcontract the majority of a project. Firms grow quickly when demand increases and shrink quickly when demand decreases. Subcontracting is one important source of this elasticity, as has been noted by several academic studies.⁶¹ Other industry sectors, especially in this era of Internet commerce and independent contractors, can also quickly grow or shrink in response to demand.

Finally, even where “capacity”-type factors have been controlled for in statistical analyses, results consistent with business discrimination are still typically observed. For example, large and statistically significant differences in commercial loan denial rates between minority and nonminority firms are evident throughout the country, even when detailed balance sheet and creditworthiness measures are held constant.⁶² Similarly, economists using decennial census data have demonstrated that statistically significant disparities in business formation and business owner earnings between M/WBEs and non-M/WBEs remain even after controlling for a host of additional relevant factors, including educational achievement, labor market experience, marital status, disability status, veteran status, interest and dividend income, labor market attachment, industry, geographic location, and local labor market variables such as the unemployment rate, population growth rate, government employment rate, or per capita income.⁶³

To summarize, the statistical analysis of the availability of minority and female firms in disparity studies should not adjust for inappropriate “capacity” factors because:

- “Capacity” has been ill-defined; and reliable data for measurement are generally unavailable;
- Small firms, particularly in the construction industry, are highly elastic with regard to ability to perform;
- Studies have shown that even when “capacity” and “qualifications”-type factors are held constant in statistical analyses, evidence of disparity against M/WBE firms persists;⁶⁴ and
- Most important, identifiable indicators of “capacity” are themselves impacted by discrimination.

⁶¹ See Bourdon and Levitt (1980); *see also* Eccles (1981); *and* Gould (1980).

⁶² See Wainwright (2008).

⁶³ Wainwright (2000).

⁶⁴ Within the present Study, *see esp.* Chapter V, throughout, and Chapter VII, Tables 7.3-7.6 and the accompanying discussion.

C. Estimates of M/WBE Availability

Top-level estimates of M/WBE availability appear below in Table 3.15. Two sets of weighted availability measures are provided for each of the six major procurement categories of Construction, AE-CRS, Maintenance, IT, Services and CSE. The first set is weighted by award dollars for all contracts. The second set is weighted by paid dollars for substantially completed contracts.

Table 3.15. Overall Estimated M/WBE Availability Percentages

	African American	Hispanic	Asian	Native American	Minority	Non-minority Female	M/WBE	Non-M/WBE
OVERALL								
AWARD DOLLARS	11.61	3.59	5.41	1.04	21.64	14.24	35.89	64.11
PAID DOLLARS	11.18	3.84	4.65	1.03	20.70	14.04	34.75	65.25
CONSTRUCTION								
AWARD DOLLARS	10.66	4.91	2.65	0.77	18.99	13.94	32.93	67.07
PAID DOLLARS	10.26	5.10	2.68	0.79	18.83	13.65	32.48	67.52
AE-CRS								
AWARD DOLLARS	8.61	2.22	4.82	1.22	16.87	12.16	29.02	70.98
PAID DOLLARS	8.46	2.21	4.83	1.23	16.73	11.93	28.66	71.34
MAINTENANCE								
AWARD DOLLARS	13.87	4.78	3.48	1.87	23.99	12.44	36.44	63.56
PAID DOLLARS	16.16	5.42	3.52	2.22	27.33	13.49	40.82	59.18
IT								
AWARD DOLLARS	15.55	3.53	13.01	1.20	33.29	13.26	46.55	53.45
PAID DOLLARS	15.54	3.55	12.67	1.19	32.95	13.43	46.37	53.63
SERVICES								
AWARD DOLLARS	13.52	3.08	5.53	1.06	23.19	17.67	40.86	59.14
PAID DOLLARS	13.92	2.91	4.82	1.15	22.79	18.18	40.97	59.03

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	African American	Hispanic	Asian	Native American	Minority	Non-minority Female	M/WBE	Non-M/WBE
CSE								
AWARD DOLLARS	10.50	3.24	6.10	0.85	20.70	13.02	33.71	66.29
PAID DOLLARS	10.78	3.15	6.33	0.83	21.09	13.20	34.29	65.71

Sources: Dun & Bradstreet; M/WBE business directory information compiled by NERA; NERA telephone surveys.

Note: Figures are rounded. Rounding was performed subsequent to any mathematical calculations.

Overall M/WBE availability in the Construction sector is between 32.48 and 32.93 percent. Non-M/WBE availability is between 67.07 and 67.52 percent. Among M/WBEs, availability of African American-owned businesses is between 10.26 and 10.66 percent, availability of Hispanic-owned businesses is between 4.91 and 5.10 percent, availability of Asian-owned businesses is 2.65 and 2.68 percent, and availability of Native American-owned businesses is between 0.77 and 0.79 percent. Availability of minority-owned businesses as a group is between 18.83 and 18.99 percent. Availability of nonminority female-owned businesses is between 13.65 and 13.94 percent.

Overall M/WBE availability in the AE-CRS sector is between 28.66 and 29.02 percent. Non-M/WBE availability is between 70.98 and 71.34 percent. Among M/WBEs, availability of African American-owned businesses is between 8.46 and 8.61 percent, availability of Hispanic-owned businesses is between 2.21 and 2.22 percent, availability of Asian-owned businesses is between 4.82 and 4.83 percent, and availability of Native American-owned businesses is between 1.22 and 1.23 percent. Availability of minority-owned businesses as a group is between 16.73 and 16.87 percent. Availability of nonminority female-owned businesses is between 11.93 and 12.16 percent.

Overall M/WBE availability in the Maintenance sector is between 36.44 and 40.82 percent. Non-M/WBE availability is between 59.18 and 63.56 percent. Among M/WBEs, availability of African American-owned businesses is between 13.87 and 16.16 percent, availability of Hispanic-owned businesses is between 4.78 and 5.42 percent, availability of Asian-owned businesses is between 3.48 and 3.52 percent, and availability of Native American-owned businesses is between 1.87 and 2.22 percent. Availability of minority-owned businesses as a group is between 23.99 and 27.33 percent. Availability of nonminority female-owned businesses is between 12.44 and 13.49 percent.

Overall M/WBE availability in the IT sector is between 46.37 and 46.55 percent. Non-M/WBE availability is between 53.45 and 53.63 percent. Among M/WBEs, availability of African American-owned businesses is between 15.54 and 15.55 percent, availability of Hispanic-owned businesses is between 3.53 and 3.55 percent, availability of Asian-owned businesses is between 12.67 and 13.01 percent, and availability of Native American-owned businesses is between 1.19 and 1.20 percent. Availability of minority-owned businesses as a group is between 32.95 and

33.29 percent. Availability of nonminority female-owned businesses is between 13.26 and 13.43 percent.

Overall M/WBE availability in the Services sector is between 40.86 and 40.97 percent. Non-M/WBE availability is between 59.03 and 59.14 percent. Among M/WBEs, availability of African American-owned businesses is between 13.52 and 13.92 percent, availability of Hispanic-owned businesses is between 2.91 and 3.08 percent, availability of Asian-owned businesses is between 4.82 and 5.53 percent, and availability of Native American-owned businesses is between 1.06 and 1.15 percent. Availability of minority-owned businesses as a group is between 22.79 and 23.19 percent. Availability of nonminority female-owned businesses is between 17.67 and 18.18 percent.

Overall M/WBE availability in the CSE sector is between 33.71 and 34.29 percent. Non-M/WBE availability is between 65.71 and 66.29 percent. Among M/WBEs, availability of African American-owned businesses is between 10.50 and 10.78 percent, availability of Hispanic-owned businesses is between 3.15 and 3.24 percent, availability of Asian-owned businesses is between 6.10 and 6.33 percent, and availability of Native American-owned businesses is between 0.83 and 0.85 percent. Availability of minority-owned businesses as a group is between 20.70 and 21.09 percent. Availability of nonminority female-owned businesses is between 13.02 and 13.20 percent.

Tables 3.16 through 3.21 present detailed estimates of M/WBE availability in the State of Maryland’s relevant market area for Construction, AE-CRS, Maintenance, IT, Services, and CSE.⁶⁵

Table 3.16. Detailed M/WBE Availability Percentages—Construction (All Contracts) (Dollars Awarded)

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Building Equipment Contractors (NAICS 2382)	9.14	4.67	1.52	0.64	12.45	28.41	71.59
Highway, Street, and Bridge Construction (NAICS 2373)	13.59	3.09	3.70	0.38	11.87	32.62	67.38
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	7.02	5.87	1.13	0.48	8.91	23.41	76.59
Nonresidential Building Construction (NAICS 2362)	12.17	6.74	4.46	2.09	10.01	35.47	64.53
Other Specialty Trade Contractors (NAICS 2389)	6.79	4.54	3.68	2.92	11.61	29.55	70.45
Building Finishing Contractors (NAICS 2383)	3.90	12.26	2.95	0.17	13.32	32.59	67.41
Architectural and Structural Metals Manufacturing (NAICS 3323)	5.93	0.04	0.23	0.18	14.05	20.43	79.57

⁶⁵ Similar tables using paid dollar weights were also produced but are not included here for space considerations.

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Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	5.27	2.10	1.21	0.87	10.56	20.01	79.99
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	8.55	0.23	5.55	0.12	11.32	25.76	74.24
Utility System Construction (NAICS 2371)	9.17	1.81	2.38	1.14	10.38	24.88	75.12
Other Heavy and Civil Engineering Construction (NAICS 2379)	8.76	1.99	3.41	0.45	10.28	24.89	75.11
Specialized Freight Trucking (NAICS 4842)	24.84	7.48	1.87	0.12	11.65	45.97	54.03
Architectural, Engineering, and Related Services (NAICS 5413)	6.97	1.98	4.88	1.37	10.25	25.45	74.55
Services to Buildings and Dwellings (NAICS 5617)	17.57	3.45	2.70	2.24	11.53	37.50	62.50
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	4.86	2.42	6.60	0.97	9.83	24.68	75.32
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	10.28	0.06	7.17	0.04	18.00	35.55	64.45
Cement and Concrete Product Manufacturing (NAICS 3273)	3.08	1.12	0.51	0.07	5.75	10.53	89.47
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	4.38	1.02	2.19	0.94	8.62	17.16	82.84
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	1.80	0.32	2.60	0.55	6.67	11.94	88.06
Electric Lighting Equipment Manufacturing (NAICS 3351)	4.05	0.08	0.15	4.75	15.11	24.13	75.87
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	5.93	0.82	3.36	0.68	15.46	26.25	73.75
Other Support Services (NAICS 5619)	18.71	2.45	2.57	0.02	28.54	52.30	47.70
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)	11.81	0.23	7.83	0.23	14.79	34.89	65.11
Investigation and Security Services (NAICS 5616)	19.84	1.44	5.00	1.16	11.73	39.16	60.84
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)	8.83	3.66	4.95	0.54	16.02	34.00	66.00
Computer Systems Design and Related Services (NAICS 5415)	16.35	3.48	14.17	1.27	13.04	48.31	51.69

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Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Other Miscellaneous Manufacturing (NAICS 3399)	7.16	1.54	1.07	0.04	27.72	37.52	62.48
Other Wood Product Manufacturing (NAICS 3219)	1.29	0.68	0.64	0.00	3.78	6.40	93.60
Remediation and Other Waste Management Services (NAICS 5629)	4.48	6.72	6.65	0.01	15.51	33.36	66.64
Other Support Activities for Transportation (NAICS 4889)	30.32	15.93	7.11	0.06	4.93	58.36	41.64
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)	0.00	0.00	0.00	0.00	7.14	7.14	92.86
Other Electrical Equipment and Component Manufacturing (NAICS 3359)	12.46	4.15	5.60	0.89	15.77	38.87	61.13
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	5.77	3.39	1.78	0.29	10.03	21.26	78.74
Home Furnishings Stores (NAICS 4422)	0.94	9.73	7.22	0.01	10.14	28.04	71.96
Employment Services (NAICS 5613)	9.20	2.44	3.33	0.03	12.27	27.27	72.73
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	4.27	0.00	0.00	0.02	13.28	17.57	82.43
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)	12.67	6.33	6.33	0.00	12.67	38.01	61.99
Building Material and Supplies Dealers (NAICS 4441)	3.07	0.03	2.31	0.01	16.87	22.30	77.70
Other Miscellaneous Store Retailers (NAICS 4539)	11.81	3.65	4.95	0.92	17.50	38.83	61.17
Management, Scientific, and Technical Consulting Services (NAICS 5416)	11.11	2.69	5.28	1.59	19.54	40.21	59.79
Other Fabricated Metal Product Manufacturing (NAICS 3329)	0.19	1.51	2.42	4.43	18.69	27.24	72.76
Electronics and Appliance Stores (NAICS 4431)	10.01	0.31	3.00	0.29	15.37	28.99	71.01
Communications Equipment Manufacturing (NAICS 3342)	3.95	11.40	0.00	0.00	20.48	35.83	64.17
Support Activities for Road Transportation (NAICS 4884)	6.71	9.01	0.15	1.78	16.46	34.11	65.89
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	0.19	0.04	0.83	2.27	21.37	24.70	75.30
Rail Transportation (NAICS 4821)	0.65	0.14	0.20	0.08	1.69	2.74	97.26

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing (NAICS 3252)	6.87	0.04	0.07	0.07	8.03	15.08	84.92
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)	13.23	3.63	5.47	0.96	17.77	41.06	58.94
Direct Selling Establishments (NAICS 4543)	2.43	0.82	0.83	0.01	8.60	12.68	87.32
Railroad Rolling Stock Manufacturing (NAICS 3365)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Offices of Real Estate Agents and Brokers (NAICS 5312)	7.84	1.56	4.25	0.33	18.14	32.12	67.88
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)	16.68	1.35	3.58	0.83	17.37	39.81	60.19
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)	7.82	0.81	3.77	0.00	13.48	25.88	74.12
Electric Power Generation, Transmission and Distribution (NAICS 2211)	1.22	0.01	1.80	1.11	8.17	12.31	87.69
Waste Collection (NAICS 5621)	23.81	0.00	0.00	3.14	7.25	34.21	65.79
Other General Purpose Machinery Manufacturing (NAICS 3339)	0.00	0.00	0.00	0.00	22.22	22.22	77.78
Automotive Equipment Rental and Leasing (NAICS 5321)	2.08	0.07	2.88	0.95	3.13	9.11	90.89
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	11.19	0.00	1.89	0.00	16.24	29.31	70.69
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)	8.56	0.75	1.35	0.07	14.61	25.34	74.66
Warehousing and Storage (NAICS 4931)	10.26	3.17	4.54	0.76	13.91	32.64	67.36
Furniture Stores (NAICS 4421)	3.83	0.05	0.52	1.19	14.41	20.00	80.00
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)	1.09	2.37	0.01	3.14	6.87	13.48	86.52

Sources and Notes: See Table 3.15.

Table 3.17. Detailed M/WBE Availability Percentages—AE-CRS (All Contracts) (Dollars Awarded)

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Architectural, Engineering, and Related Services (NAICS 5413)	7.21	2.17	4.92	1.35	10.31	25.96	74.04
Management, Scientific, and Technical Consulting Services (NAICS 5416)	9.23	2.09	4.30	1.52	15.85	33.00	67.00
Other Heavy and Civil Engineering Construction (NAICS 2379)	8.76	1.99	3.41	0.45	10.28	24.89	75.11
Highway, Street, and Bridge Construction (NAICS 2373)	13.59	3.09	3.70	0.38	11.87	32.62	67.38
Other Support Services (NAICS 5619)	18.71	2.45	2.57	0.02	28.54	52.30	47.70
Building Equipment Contractors (NAICS 2382)	5.81	3.16	1.43	0.13	12.18	22.72	77.28
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	0.34	1.66	0.89	0.04	0.92	3.84	96.16
Community Food and Housing, and Emergency and Other Relief Services (NAICS 6242)	0.00	0.00	0.00	0.00	9.09	9.09	90.91
Advertising, Public Relations, and Related Services (NAICS 5418)	7.68	4.62	1.70	0.34	26.75	41.08	58.92
Scientific Research and Development Services (NAICS 5417)	4.59	0.01	1.12	0.41	6.95	13.08	86.92
Computer Systems Design and Related Services (NAICS 5415)	17.01	3.19	13.33	1.24	13.39	48.15	51.85
Employment Services (NAICS 5613)	9.20	2.44	3.33	0.03	12.27	27.27	72.73
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	4.49	0.02	1.44	1.24	8.16	15.35	84.65

Sources and Notes: See Table 3.15.

M/WBE Availability in the State of Maryland's Market Area

Table 3.18. Detailed M/WBE Availability Percentages—Maintenance (All Contracts) (Dollars Awarded)

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Railroad Rolling Stock Manufacturing (NAICS 3365)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	8.55	0.23	5.55	0.12	11.32	25.76	74.24
Building Equipment Contractors (NAICS 2382)	10.69	3.56	1.04	0.47	13.07	28.84	71.16
Facilities Support Services (NAICS 5612)	26.39	3.77	2.52	1.15	9.10	42.92	57.08
Investigation and Security Services (NAICS 5616)	20.58	1.89	3.21	1.48	11.62	38.79	61.21
Services to Buildings and Dwellings (NAICS 5617)	22.48	6.98	3.48	1.19	12.62	46.76	53.24
Highway, Street, and Bridge Construction (NAICS 2373)	13.59	3.09	3.70	0.38	11.87	32.62	67.38
Other Specialty Trade Contractors (NAICS 2389)	6.64	3.38	3.51	3.36	11.47	28.36	71.64
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	4.28	6.80	1.58	1.57	11.29	25.52	74.48
Business Support Services (NAICS 5614)	18.77	4.72	4.66	5.24	15.17	48.58	51.42
Interurban and Rural Bus Transportation (NAICS 4852)	20.62	0.00	0.00	0.00	14.37	35.00	65.00
Support Activities for Road Transportation (NAICS 4884)	6.71	9.01	0.15	1.78	16.46	34.11	65.89
Nonresidential Building Construction (NAICS 2362)	12.17	6.74	4.46	2.09	10.01	35.47	64.53
Other Heavy and Civil Engineering Construction (NAICS 2379)	8.76	1.99	3.41	0.45	10.28	24.89	75.11
Support Activities for Rail Transportation (NAICS 4882)	18.21	12.34	3.80	2.17	13.75	50.27	49.73
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	4.46	0.28	1.64	1.16	8.28	15.82	84.18
Direct Selling Establishments (NAICS 4543)	2.43	0.82	0.83	0.01	8.60	12.68	87.32
Architectural, Engineering, and Related Services (NAICS 5413)	6.75	2.06	5.33	1.57	9.40	25.12	74.88
Urban Transit Systems (NAICS 4851)	42.42	4.79	10.65	0.12	5.04	63.02	36.98
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)	1.09	2.37	0.01	3.14	6.87	13.48	86.52
Waste Collection (NAICS 5621)	23.81	0.00	0.00	3.14	7.25	34.21	65.79

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)	5.95	2.11	0.41	0.01	3.20	11.68	88.32
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)	1.79	3.65	2.27	1.22	7.00	15.93	84.07
Communications Equipment Manufacturing (NAICS 3342)	6.61	2.28	4.18	0.01	7.40	20.48	79.52
Specialized Freight Trucking (NAICS 4842)	24.84	7.48	1.87	0.12	11.65	45.97	54.03
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	4.84	1.78	1.16	1.23	11.47	20.48	79.52
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	3.61	0.27	0.82	0.52	11.17	16.38	83.62
Automobile Dealers (NAICS 4411)	4.17	2.71	2.96	0.05	10.16	20.05	79.95
Motor Vehicle Parts Manufacturing (NAICS 3363)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	1.23	0.00	2.83	0.00	4.07	8.13	91.87
Waste Treatment and Disposal (NAICS 5622)	8.77	2.81	0.97	0.00	22.25	34.80	65.20
Management, Scientific, and Technical Consulting Services (NAICS 5416)	6.85	2.26	4.41	2.20	18.78	34.50	65.50
Building Finishing Contractors (NAICS 2383)	5.24	17.85	3.19	0.05	12.89	39.23	60.77
Traveler Accommodation (NAICS 7211)	0.13	1.43	10.56	3.60	9.94	25.65	74.35
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)	10.59	3.98	5.58	0.11	17.56	37.82	62.18
Employment Services (NAICS 5613)	11.34	2.41	4.18	0.19	13.84	31.97	68.03
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	8.07	0.42	1.68	0.24	28.55	38.96	61.04
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	12.59	0.00	0.00	0.05	0.16	12.81	87.19
Electric Lighting Equipment Manufacturing (NAICS 3351)	2.16	0.04	0.08	5.87	13.06	21.21	78.79

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Remediation and Other Waste Management Services (NAICS 5629)	6.29	2.91	1.99	0.05	14.80	26.04	73.96
Architectural and Structural Metals Manufacturing (NAICS 3323)	3.47	0.04	0.06	0.84	12.76	17.17	82.83
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)	6.23	4.13	7.07	1.19	6.46	25.08	74.92
Utility System Construction (NAICS 2371)	9.16	1.81	2.38	1.15	10.41	24.90	75.10
Computer Systems Design and Related Services (NAICS 5415)	17.02	3.15	15.07	1.04	11.45	47.74	52.26
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	10.28	0.06	7.17	0.04	18.00	35.55	64.45
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	0.19	0.04	0.83	2.27	21.37	24.70	75.30
Automotive Repair and Maintenance (NAICS 8111)	8.22	3.96	9.00	0.18	11.62	32.98	67.02
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	6.82	3.48	2.38	0.40	11.15	24.23	75.77
Building Material and Supplies Dealers (NAICS 4441)	4.87	1.40	1.91	0.35	10.96	19.49	80.51
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)	7.82	0.81	3.77	0.00	13.48	25.88	74.12
Support Activities for Air Transportation (NAICS 4881)	18.32	1.91	2.91	0.13	2.42	25.69	74.31
Aerospace Product and Parts Manufacturing (NAICS 3364)	0.00	4.35	0.00	0.00	19.13	23.48	76.52
Couriers and Express Delivery Services (NAICS 4921)	24.20	3.10	0.10	2.52	1.80	31.73	68.27
Rail Transportation (NAICS 4821)	0.65	0.14	0.20	0.08	1.69	2.74	97.26
Cement and Concrete Product Manufacturing (NAICS 3273)	2.95	0.05	0.07	0.01	0.19	3.27	96.73
Freight Transportation Arrangement (NAICS 4885)	17.82	4.09	7.34	0.18	11.67	41.11	58.89
Other General Purpose Machinery Manufacturing (NAICS 3339)	7.69	0.00	15.38	0.00	24.62	47.69	52.31
Vocational Rehabilitation Services (NAICS 6243)	13.63	4.02	5.48	0.90	16.19	40.22	59.78
Electric Power Generation, Transmission and Distribution (NAICS 2211)	1.22	0.01	1.80	1.11	8.17	12.31	87.69

Sources and Notes: See Table 3.15.

M/WBE Availability in the State of Maryland's Market Area

Table 3.19. Detailed M/WBE Availability Percentages—IT (All Contracts) (Dollars Awarded)

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Computer Systems Design and Related Services (NAICS 5415)	17.55	2.95	14.21	1.45	11.58	47.74	52.26
Communications Equipment Manufacturing (NAICS 3342)	6.82	1.00	4.65	0.01	5.96	18.44	81.56
Software Publishers (NAICS 5112)	11.92	3.54	8.00	0.28	13.22	36.96	63.04
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	10.53	1.55	6.15	0.88	9.50	28.61	71.39
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	4.06	4.06	4.48	0.05	10.02	22.68	77.32
Management, Scientific, and Technical Consulting Services (NAICS 5416)	14.33	2.70	5.94	1.04	18.83	42.85	57.15
Employment Services (NAICS 5613)	12.43	2.40	4.61	0.28	14.63	34.36	65.64
Nonresidential Building Construction (NAICS 2362)	12.17	6.74	4.46	2.09	10.01	35.47	64.53
Advertising, Public Relations, and Related Services (NAICS 5418)	7.68	4.62	1.70	0.34	26.75	41.08	58.92
Architectural, Engineering, and Related Services (NAICS 5413)	6.29	1.93	4.00	1.28	10.08	23.57	76.43
Utility System Construction (NAICS 2371)	10.23	2.27	2.41	0.51	8.48	23.89	76.11
Business Support Services (NAICS 5614)	12.36	0.10	0.12	0.02	12.45	25.04	74.96
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	9.83	8.13	1.81	0.10	6.74	26.61	73.39
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	13.60	3.53	6.14	0.96	16.46	40.69	59.31
Scientific Research and Development Services (NAICS 5417)	4.78	0.89	5.29	2.80	5.71	19.48	80.52
Wired Telecommunications Carriers (NAICS 5171)	14.59	0.20	2.02	0.05	6.34	23.20	76.80
Other Ambulatory Health Care Services (NAICS 6219)	13.34	3.93	7.38	0.65	17.53	42.83	57.17
Other Telecommunications (NAICS 5179)	4.61	2.56	1.77	0.43	3.00	12.38	87.62
Data Processing, Hosting, and Related Services (NAICS 5182)	21.33	1.91	5.77	0.14	15.34	44.50	55.50
Educational Support Services (NAICS 6117)	25.75	0.71	3.31	2.37	10.40	42.54	57.46
Electronics and Appliance Stores (NAICS 4431)	10.01	0.31	3.00	0.29	15.37	28.99	71.01

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Building Finishing Contractors (NAICS 2383)	3.32	8.87	1.91	0.05	14.38	28.54	71.46
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)	2.20	0.39	0.51	0.08	16.21	19.40	80.60
Other Specialty Trade Contractors (NAICS 2389)	6.37	1.28	3.21	4.14	11.20	26.21	73.79
Printing and Related Support Activities (NAICS 3231)	4.82	1.60	5.27	0.98	17.92	30.59	69.41
Building Equipment Contractors (NAICS 2382)	13.07	6.81	1.73	1.31	12.66	35.56	64.44
Architectural and Structural Metals Manufacturing (NAICS 3323)	7.09	0.04	0.08	0.04	15.98	23.23	76.77
Specialized Design Services (NAICS 5414)	15.06	3.76	4.93	1.27	24.71	49.73	50.27
Other Heavy and Civil Engineering Construction (NAICS 2379)	8.76	1.99	3.41	0.45	10.28	24.89	75.11
Services to Buildings and Dwellings (NAICS 5617)	16.65	2.83	2.56	2.41	11.31	35.76	64.24

Sources and Notes: *See Table 3.15.*

M/WBE Availability in the State of Maryland's Market Area

Table 3.20. Detailed M/WBE Availability Percentages—Services (All Contracts) (Dollars Awarded)

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Electric Power Generation, Transmission and Distribution (NAICS 2211)	1.22	0.01	1.80	1.11	8.17	12.31	87.69
Other Ambulatory Health Care Services (NAICS 6219)	13.34	3.93	7.38	0.65	17.53	42.83	57.17
Office Administrative Services (NAICS 5611)	12.78	2.34	2.67	0.81	19.74	38.34	61.66
Other Miscellaneous Manufacturing (NAICS 3399)	21.79	5.95	1.10	0.00	16.94	45.79	54.21
Advertising, Public Relations, and Related Services (NAICS 5418)	8.06	3.08	1.44	0.60	25.75	38.92	61.08
Urban Transit Systems (NAICS 4851)	42.42	4.79	10.65	0.12	5.04	63.02	36.98
Rail Transportation (NAICS 4821)	0.65	0.14	0.20	0.08	1.69	2.74	97.26
Other Residential Care Facilities (NAICS 6239)	13.45	0.69	0.70	0.03	10.36	25.22	74.78
Other Transit and Ground Passenger Transportation (NAICS 4859)	29.55	4.35	3.85	0.80	14.10	52.65	47.35
Insurance Carriers (NAICS 5241)	5.75	1.57	0.10	1.39	1.62	10.43	89.57
Management, Scientific, and Technical Consulting Services (NAICS 5416)	13.69	2.46	5.22	0.93	16.81	39.11	60.89
Business Support Services (NAICS 5614)	17.29	3.83	3.25	3.96	14.73	43.07	56.93
Computer Systems Design and Related Services (NAICS 5415)	16.82	3.26	14.14	1.18	12.66	48.07	51.93
Architectural, Engineering, and Related Services (NAICS 5413)	7.07	1.94	5.15	1.41	10.28	25.86	74.14
Offices of Dentists (NAICS 6212)	6.41	2.30	10.10	1.80	17.54	38.15	61.85
Employment Services (NAICS 5613)	14.90	2.37	5.60	0.47	16.44	39.78	60.22
Special Food Services (NAICS 7223)	16.39	0.43	3.94	0.11	2.02	22.89	77.11
Individual and Family Services (NAICS 6241)	9.52	0.64	2.46	1.82	11.27	25.71	74.29
Natural Gas Distribution (NAICS 2212)	5.63	0.00	4.87	0.00	0.00	10.50	89.50
Communications Equipment Manufacturing (NAICS 3342)	6.97	1.03	4.75	0.01	5.59	18.36	81.64
Grocery and Related Product Merchant Wholesalers (NAICS 4244)	8.73	5.41	4.34	1.20	16.25	35.93	64.07
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	8.55	0.23	5.55	0.12	11.32	25.76	74.24

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Drugs and Druggists' Sundries Merchant Wholesalers (NAICS 4242)	8.89	3.31	7.70	0.02	14.10	34.00	66.00
Printing and Related Support Activities (NAICS 3231)	4.82	1.60	5.27	0.98	17.92	30.59	69.41
Other Information Services (NAICS 5191)	12.97	0.73	7.46	6.67	11.06	38.88	61.12
Radio and Television Broadcasting (NAICS 5151)	5.39	0.13	1.69	2.13	2.21	11.55	88.45
Taxi and Limousine Service (NAICS 4853)	22.66	4.26	11.86	1.63	8.65	49.06	50.94
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)	4.42	0.39	0.70	0.04	14.11	19.66	80.34
Direct Selling Establishments (NAICS 4543)	2.43	0.82	0.83	0.01	8.60	12.68	87.32
Water, Sewage and Other Systems (NAICS 2213)	0.00	0.00	0.00	0.00	50.00	50.00	50.00
Railroad Rolling Stock Manufacturing (NAICS 3365)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Services to Buildings and Dwellings (NAICS 5617)	27.20	9.96	4.17	0.48	13.86	55.67	44.33
Facilities Support Services (NAICS 5612)	26.39	3.77	2.52	1.15	9.10	42.92	57.08
Building Equipment Contractors (NAICS 2382)	11.91	6.22	1.68	1.12	12.58	33.51	66.49
Other Personal Services (NAICS 8129)	4.15	0.96	0.50	0.01	2.61	8.24	91.76
Accounting, Tax Preparation, Bookkeeping, and Payroll Services (NAICS 5412)	13.66	0.96	1.41	1.92	24.85	42.80	57.20
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	0.01	4.85	0.06	0.00	16.04	20.96	79.04
Wireless Telecommunications Carriers (except Satellite) (NAICS 5172)	9.50	3.00	4.55	0.68	12.18	29.92	70.08
Travel Arrangement and Reservation Services (NAICS 5615)	8.13	0.00	2.03	2.03	7.10	19.30	80.70
Outpatient Care Centers (NAICS 6214)	4.10	0.67	0.64	0.71	7.67	13.79	86.21
Other Telecommunications (NAICS 5179)	4.61	2.56	1.77	0.43	3.00	12.38	87.62
Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities (NAICS 6232)	20.85	0.02	4.87	0.00	10.89	36.62	63.38
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)	1.73	0.68	1.09	0.68	14.01	18.19	81.81

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Other Professional, Scientific, and Technical Services (NAICS 5419)	2.24	15.73	4.23	2.66	29.19	54.06	45.94
Investigation and Security Services (NAICS 5616)	20.42	1.88	2.44	1.88	11.94	38.56	61.44
Legal Services (NAICS 5411)	5.16	3.53	0.26	0.04	21.42	30.42	69.58
Lessors of Real Estate (NAICS 5311)	2.99	0.15	1.89	0.03	14.43	19.48	80.52
Depository Credit Intermediation (NAICS 5221)	0.19	0.00	0.42	0.00	0.44	1.06	98.94
Motion Picture and Video Industries (NAICS 5121)	14.52	3.33	2.18	0.10	25.68	45.82	54.18
Charter Bus Industry (NAICS 4855)	29.84	0.97	0.39	0.18	17.80	49.19	50.81
Offices of Other Health Practitioners (NAICS 6213)	5.02	1.31	4.01	2.03	21.09	33.46	66.54
Interurban and Rural Bus Transportation (NAICS 4852)	20.62	0.00	0.00	0.00	14.37	35.00	65.00
Scientific Research and Development Services (NAICS 5417)	4.75	0.73	4.52	2.36	5.94	18.29	81.71
Other Support Services (NAICS 5619)	18.71	2.45	2.57	0.02	28.54	52.30	47.70
Software Publishers (NAICS 5112)	11.92	3.54	8.00	0.28	13.22	36.96	63.04
Specialized Freight Trucking (NAICS 4842)	24.84	7.48	1.87	0.12	11.65	45.97	54.03
Home Health Care Services (NAICS 6216)	37.69	3.81	0.92	0.04	11.38	53.84	46.16
Activities Related to Real Estate (NAICS 5313)	11.69	4.81	1.66	0.01	20.62	38.79	61.21
Automotive Repair and Maintenance (NAICS 8111)	11.90	7.57	4.57	0.95	8.85	33.84	66.16
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	6.80	1.35	6.89	1.03	12.40	28.46	71.54
Pharmaceutical and Medicine Manufacturing (NAICS 3254)	3.62	0.87	11.46	4.33	6.84	27.12	72.88
Waste Treatment and Disposal (NAICS 5622)	8.77	2.81	0.97	0.00	22.25	34.80	65.20
Local Messengers and Local Delivery (NAICS 4922)	13.55	3.26	4.98	0.78	15.17	37.75	62.25
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)	0.93	3.40	2.39	1.14	6.68	14.55	85.45
Gambling Industries (NAICS 7132)	15.62	0.00	0.00	0.00	31.25	46.88	53.12
Other Amusement and Recreation Industries (NAICS 7139)	0.05	1.11	0.83	1.10	15.30	18.38	81.62

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	12.25	1.93	2.59	0.41	12.52	29.70	70.30
Offices of Physicians (NAICS 6211)	6.70	2.32	7.35	3.95	18.47	38.79	61.21
Waste Collection (NAICS 5621)	23.81	0.00	0.00	3.14	7.25	34.21	65.79
Paper and Paper Product Merchant Wholesalers (NAICS 4241)	13.33	0.00	0.00	0.00	0.00	13.33	86.67
Data Processing, Hosting, and Related Services (NAICS 5182)	21.33	1.91	5.77	0.14	15.34	44.50	55.50
Other Heavy and Civil Engineering Construction (NAICS 2379)	8.76	1.99	3.41	0.45	10.28	24.89	75.11
Remediation and Other Waste Management Services (NAICS 5629)	5.14	0.05	0.10	0.10	2.22	7.61	92.39
Cable and Other Subscription Programming (NAICS 5152)	5.49	3.55	4.00	0.06	3.25	16.35	83.65
Vending Machine Operators (NAICS 4542)	21.89	0.72	4.46	0.01	7.43	34.49	65.51
Logging (NAICS 1133)	2.24	0.00	0.00	0.00	26.78	29.02	70.98
Highway, Street, and Bridge Construction (NAICS 2373)	13.59	3.09	3.70	0.38	11.87	32.62	67.38
Educational Support Services (NAICS 6117)	25.75	0.71	3.31	2.37	10.40	42.54	57.46
Nonresidential Building Construction (NAICS 2362)	12.17	6.74	4.46	2.09	10.01	35.47	64.53
Electric Lighting Equipment Manufacturing (NAICS 3351)	6.12	0.11	0.23	3.52	17.36	27.34	72.66
Health and Personal Care Stores (NAICS 4461)	6.28	2.68	2.00	0.01	4.90	15.87	84.13
Automobile Dealers (NAICS 4411)	4.17	2.71	2.96	0.05	10.16	20.05	79.95
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)	5.95	2.11	0.41	0.01	3.20	11.68	88.32
Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures (NAICS 7114)	14.25	3.77	4.97	1.04	19.46	43.48	56.52
Traveler Accommodation (NAICS 7211)	0.13	1.43	10.56	3.60	9.94	25.65	74.35
Business, Professional, Labor, Political, and Similar Organizations (NAICS 8139)	11.62	4.08	5.30	0.82	15.09	36.91	63.09
Colleges, Universities, and Professional Schools (NAICS 6113)	10.98	3.89	5.08	0.78	14.37	35.10	64.90

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Other Specialty Trade Contractors (NAICS 2389)	6.37	1.28	3.21	4.14	11.20	26.21	73.79
Specialized Design Services (NAICS 5414)	15.06	3.76	4.93	1.27	24.71	49.73	50.27

Sources and Notes: See Table 3.15.

M/WBE Availability in the State of Maryland's Market Area

Table 3.21. Detailed M/WBE Availability Percentages—CSE (All Contracts) (Dollars Awarded)

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Motor Vehicle Manufacturing (NAICS 3361)	0.11	0.04	0.08	0.01	0.16	0.41	99.59
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)	8.67	1.43	5.44	0.38	11.26	27.17	72.83
Automobile Dealers (NAICS 4411)	4.17	2.71	2.96	0.05	10.16	20.05	79.95
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)	6.23	4.13	7.07	1.19	6.46	25.08	74.92
Grocery and Related Product Merchant Wholesalers (NAICS 4244)	8.57	5.42	4.23	1.22	16.08	35.52	64.48
Aerospace Product and Parts Manufacturing (NAICS 3364)	2.40	0.28	0.03	0.07	3.99	6.78	93.22
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)	2.05	0.60	1.30	0.02	9.20	13.16	86.84
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)	5.33	1.70	3.25	0.68	11.48	22.44	77.56
Wireless Telecommunications Carriers (except Satellite) (NAICS 5172)	9.50	3.00	4.55	0.68	12.18	29.92	70.08
Special Food Services (NAICS 7223)	16.60	0.53	3.87	0.11	2.55	23.67	76.33
Natural Gas Distribution (NAICS 2212)	5.63	0.00	4.87	0.00	0.00	10.50	89.50
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)	4.51	1.96	2.93	0.68	9.21	19.30	80.70
Communications Equipment Manufacturing (NAICS 3342)	5.09	7.48	1.80	0.01	14.86	29.23	70.77
Office Supplies, Stationery, and Gift Stores (NAICS 4532)	6.29	0.03	1.59	0.01	11.88	19.80	80.20
Computer Systems Design and Related Services (NAICS 5415)	16.18	3.55	14.71	1.24	12.59	48.27	51.73
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)	8.59	0.27	5.53	0.13	11.38	25.90	74.10
Building Equipment Contractors (NAICS 2382)	9.18	4.77	1.55	0.66	12.42	28.58	71.42
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)	7.80	3.73	1.66	1.08	21.77	36.04	63.96
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)	2.51	3.86	2.18	1.29	7.26	17.09	82.91

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Computer and Peripheral Equipment Manufacturing (NAICS 3341)	13.60	3.56	6.07	0.95	16.37	40.55	59.45
Software Publishers (NAICS 5112)	11.92	3.54	8.00	0.28	13.22	36.96	63.04
Printing and Related Support Activities (NAICS 3231)	4.82	1.60	5.27	0.98	17.92	30.59	69.41
Electric Power Generation, Transmission and Distribution (NAICS 2211)	1.28	0.02	1.53	0.94	7.69	11.47	88.53
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)	2.51	2.67	1.52	0.55	4.27	11.52	88.48
Health and Personal Care Stores (NAICS 4461)	13.34	2.90	4.68	1.27	10.11	32.31	67.69
Railroad Rolling Stock Manufacturing (NAICS 3365)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Miscellaneous Manufacturing (NAICS 3399)	10.49	1.44	1.47	0.12	25.78	39.30	60.70
Water, Sewage and Other Systems (NAICS 2213)	0.00	0.00	0.00	0.00	50.00	50.00	50.00
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)	11.68	0.96	4.36	0.39	16.07	33.47	66.53
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)	1.33	0.05	2.79	0.08	4.45	8.69	91.31
Paper and Paper Product Merchant Wholesalers (NAICS 4241)	14.33	1.59	1.28	0.31	23.00	40.51	59.49
Engine, Turbine, and Power Transmission Equipment Manufacturing (NAICS 3336)	0.85	0.08	4.32	0.02	1.01	6.27	93.73
Other Chemical Product and Preparation Manufacturing (NAICS 3259)	0.16	0.06	11.72	0.01	0.21	12.15	87.85
Highway, Street, and Bridge Construction (NAICS 2373)	13.59	3.09	3.70	0.38	11.87	32.62	67.38
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)	8.43	1.14	1.41	1.59	16.75	29.31	70.69
Medical Equipment and Supplies Manufacturing (NAICS 3391)	11.44	3.75	5.61	0.80	15.14	36.74	63.26
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)	5.98	3.35	1.90	0.36	10.35	21.94	78.06
Bakeries and Tortilla Manufacturing (NAICS 3118)	8.81	11.77	0.42	0.08	16.23	37.31	62.69
Automotive Repair and Maintenance (NAICS 8111)	10.35	6.85	5.14	1.33	9.47	33.13	66.87
Specialized Freight Trucking (NAICS 4842)	24.84	7.48	1.87	0.12	11.65	45.97	54.03

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Building Material and Supplies Dealers (NAICS 4441)	5.92	0.94	4.17	0.24	16.83	28.09	71.91
Architectural, Engineering, and Related Services (NAICS 5413)	6.87	2.03	5.02	1.45	9.88	25.25	74.75
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)	7.68	3.45	4.55	0.82	15.02	31.51	68.49
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)	2.08	5.21	0.96	0.15	9.67	18.06	81.94
Seafood Product Preparation and Packaging (NAICS 3117)	0.00	0.00	0.00	0.00	52.38	52.38	47.62
Electric Lighting Equipment Manufacturing (NAICS 3351)	3.22	0.06	0.12	5.24	14.21	22.85	77.15
Electronics and Appliance Stores (NAICS 4431)	10.01	0.31	3.00	0.29	15.37	28.99	71.01
Cattle Ranching and Farming (NAICS 1121)	0.00	0.00	0.00	2.06	17.26	19.31	80.69
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)	5.30	2.06	1.32	0.88	12.35	21.90	78.10
Support Activities for Air Transportation (NAICS 4881)	18.32	1.91	2.91	0.13	2.42	25.69	74.31
Scientific Research and Development Services (NAICS 5417)	4.78	0.89	5.29	2.80	5.71	19.48	80.52
Wired Telecommunications Carriers (NAICS 5171)	14.59	0.20	2.02	0.05	6.34	23.20	76.80
Other General Purpose Machinery Manufacturing (NAICS 3339)	12.67	2.25	6.50	0.52	17.26	39.20	60.80
Direct Selling Establishments (NAICS 4543)	2.43	0.82	0.83	0.01	8.60	12.68	87.32
Electrical Equipment Manufacturing (NAICS 3353)	1.31	0.38	0.68	0.12	9.93	12.41	87.59
Drugs and Druggists' Sundries Merchant Wholesalers (NAICS 4242)	8.89	3.31	7.70	0.02	14.10	34.00	66.00
Other Ambulatory Health Care Services (NAICS 6219)	13.34	3.93	7.38	0.65	17.53	42.83	57.17
Architectural and Structural Metals Manufacturing (NAICS 3323)	2.61	0.03	0.04	0.51	13.01	16.19	83.81
Ship and Boat Building (NAICS 3366)	2.12	0.93	1.29	0.15	21.21	25.70	74.30
Semiconductor and Other Electronic Component Manufacturing (NAICS 3344)	4.02	0.42	0.77	0.13	8.44	13.79	86.21
Other Electrical Equipment and Component Manufacturing (NAICS 3359)	14.85	3.29	4.41	0.88	13.13	36.56	63.44
Industrial Machinery Manufacturing (NAICS 3332)	0.00	7.87	0.00	7.87	4.86	20.60	79.40

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)	13.66	3.65	5.34	0.97	18.18	41.80	58.20
Clothing Stores (NAICS 4481)	12.44	3.59	5.89	1.00	18.59	41.51	58.49
Management, Scientific, and Technical Consulting Services (NAICS 5416)	13.47	2.45	4.92	0.63	13.82	35.28	64.72
Plastics Product Manufacturing (NAICS 3261)	4.34	0.78	3.74	0.06	8.69	17.62	82.38
Pharmaceutical and Medicine Manufacturing (NAICS 3254)	9.75	2.22	9.21	2.28	11.71	35.17	64.83
Dairy Product Manufacturing (NAICS 3115)	11.03	3.51	4.24	0.85	16.37	36.01	63.99
Beverage Manufacturing (NAICS 3121)	13.77	1.47	8.45	0.27	5.24	29.20	70.80
Other Fabricated Metal Product Manufacturing (NAICS 3329)	2.30	1.99	2.74	3.77	17.88	28.68	71.32
Employment Services (NAICS 5613)	10.81	2.42	3.97	0.15	13.45	30.79	69.21
Electronic Shopping and Mail-Order Houses (NAICS 4541)	10.50	0.00	1.78	1.45	27.24	40.96	59.04
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)	13.29	0.80	7.73	0.09	16.07	37.98	62.02
Hunting and Trapping (NAICS 1142)	12.54	4.35	4.88	0.94	18.73	41.44	58.56
Other Specialty Trade Contractors (NAICS 2389)	7.28	8.37	4.22	1.50	12.11	33.47	66.53
Other Information Services (NAICS 5191)	17.27	0.83	3.39	0.44	12.82	34.75	65.25
Other Miscellaneous Store Retailers (NAICS 4539)	11.81	3.65	4.95	0.92	17.50	38.83	61.17
Cut and Sew Apparel Manufacturing (NAICS 3152)	21.76	2.95	7.28	1.42	16.12	49.53	50.47
Glass and Glass Product Manufacturing (NAICS 3272)	9.34	7.46	3.51	0.68	17.66	38.65	61.35
Motor Vehicle Parts Manufacturing (NAICS 3363)	7.05	2.50	3.26	0.51	9.47	22.79	77.21
Business Support Services (NAICS 5614)	19.11	4.83	4.34	5.33	15.31	48.92	51.08
Investigation and Security Services (NAICS 5616)	19.28	1.10	6.28	0.90	11.87	39.43	60.57
Consumer Goods Rental (NAICS 5322)	12.73	3.58	5.21	0.97	17.70	40.19	59.81
Other Support Activities for Transportation (NAICS 4889)	30.32	15.93	7.11	0.06	4.93	58.36	41.64
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)	15.50	3.99	6.26	0.93	16.36	43.04	56.96
Traveler Accommodation (NAICS 7211)	0.13	1.43	10.56	3.60	9.94	25.65	74.35

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Book Stores and News Dealers (NAICS 4512)	10.76	3.28	4.61	0.93	17.70	37.29	62.71
Petroleum and Coal Products Manufacturing (NAICS 3241)	3.11	1.11	1.44	0.22	19.46	25.35	74.65
Furniture Stores (NAICS 4421)	3.83	0.05	0.52	1.19	14.41	20.00	80.00
Facilities Support Services (NAICS 5612)	26.39	3.77	2.52	1.15	9.10	42.92	57.08
Services to Buildings and Dwellings (NAICS 5617)	18.62	4.83	3.45	1.64	13.17	41.71	58.29
Restaurants and Other Eating Places (NAICS 7225)	6.70	3.27	7.33	0.45	11.99	29.75	70.25
Automotive Equipment Rental and Leasing (NAICS 5321)	6.00	2.00	3.78	0.90	9.00	21.68	78.32
Support Activities for Rail Transportation (NAICS 4882)	18.21	12.34	3.80	2.17	13.75	50.27	49.73
Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511)	11.52	3.91	5.11	0.88	16.73	38.14	61.86
Building Finishing Contractors (NAICS 2383)	6.15	10.87	3.80	0.08	11.75	32.64	67.36
Local Messengers and Local Delivery (NAICS 4922)	13.55	3.26	4.98	0.78	15.17	37.75	62.25
Poultry and Egg Production (NAICS 1123)	14.75	3.62	4.77	1.05	18.06	42.25	57.75
Advertising, Public Relations, and Related Services (NAICS 5418)	9.19	4.44	2.49	0.52	25.40	42.04	57.96
Remediation and Other Waste Management Services (NAICS 5629)	7.01	1.36	0.10	0.06	14.42	22.95	77.05
Data Processing, Hosting, and Related Services (NAICS 5182)	21.33	1.91	5.77	0.14	15.34	44.50	55.50
Specialty Food Stores (NAICS 4452)	0.07	0.02	1.68	0.00	21.47	23.25	76.75
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)	5.95	2.11	0.41	0.01	3.20	11.68	88.32
Other Transit and Ground Passenger Transportation (NAICS 4859)	29.55	4.35	3.85	0.80	14.10	52.65	47.35
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)	3.71	1.33	1.72	0.27	9.48	16.51	83.49
Other Motor Vehicle Dealers (NAICS 4412)	11.31	3.88	4.95	0.87	16.53	37.55	62.45
Offices of Other Health Practitioners (NAICS 6213)	6.96	1.58	2.92	1.97	22.65	36.08	63.92
Medical and Diagnostic Laboratories (NAICS 6215)	9.21	2.65	4.44	0.73	12.44	29.48	70.52
Steel Product Manufacturing from Purchased Steel (NAICS 3312)	8.35	2.98	3.87	0.60	11.03	26.83	73.17
Nonresidential Building Construction (NAICS 2362)	12.17	6.74	4.46	2.09	10.01	35.47	64.53

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Apparel, Piece Goods, and Notions Merchant Wholesalers (NAICS 4243)	13.30	3.55	5.43	1.05	18.60	41.94	58.06
Other Food Manufacturing (NAICS 3119)	13.20	3.14	4.44	0.71	11.60	33.10	66.90
Soap, Cleaning Compound, and Toilet Preparation Manufacturing (NAICS 3256)	4.57	0.75	1.25	0.24	60.43	67.24	32.76
Utility System Construction (NAICS 2371)	9.16	1.81	2.38	1.15	10.41	24.90	75.10
Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324)	8.61	3.07	4.00	0.61	11.37	27.66	72.34
Nondepository Credit Intermediation (NAICS 5222)	9.69	3.17	3.79	0.63	11.80	29.08	70.92
Motion Picture and Video Industries (NAICS 5121)	14.52	3.33	2.18	0.10	25.68	45.82	54.18
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)	12.67	6.33	6.33	0.00	12.67	38.01	61.99
Vending Machine Operators (NAICS 4542)	21.89	0.72	4.46	0.01	7.43	34.49	65.51
Forging and Stamping (NAICS 3321)	0.00	0.00	0.00	0.00	28.89	28.89	71.11
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)	0.19	0.04	0.83	2.27	21.37	24.70	75.30
Metalworking Machinery Manufacturing (NAICS 3335)	11.37	3.73	6.33	1.09	17.49	40.00	60.00
Other Support Services (NAICS 5619)	18.71	2.45	2.57	0.02	28.54	52.30	47.70
Paint, Coating, and Adhesive Manufacturing (NAICS 3255)	10.39	2.67	4.75	0.78	19.87	38.47	61.53
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)	5.99	3.58	0.74	1.60	14.39	26.30	73.70
Other Professional, Scientific, and Technical Services (NAICS 5419)	9.17	2.80	4.67	1.29	18.70	36.64	63.36
Motor Vehicle Body and Trailer Manufacturing (NAICS 3362)	10.41	5.04	4.64	0.81	16.33	37.22	62.78
Cable and Other Subscription Programming (NAICS 5152)	5.49	3.55	4.00	0.06	3.25	16.35	83.65
Basic Chemical Manufacturing (NAICS 3251)	8.80	2.98	4.32	0.67	12.90	29.67	70.33
Offices of Physicians (NAICS 6211)	6.70	2.32	7.35	3.95	18.47	38.79	61.21
Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing (NAICS 3253)	5.88	2.05	3.64	0.55	7.86	19.97	80.03
Waste Treatment and Disposal (NAICS 5622)	8.77	2.81	0.97	0.00	22.25	34.80	65.20
Drycleaning and Laundry Services (NAICS 8123)	11.39	3.11	12.61	1.04	17.52	45.68	54.32

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Animal Slaughtering and Processing (NAICS 3116)	13.43	3.69	4.90	0.81	15.52	38.35	61.65
Other Furniture Related Product Manufacturing (NAICS 3379)	10.33	3.69	4.80	0.74	13.65	33.20	66.80
Support Activities for Road Transportation (NAICS 4884)	6.71	9.01	0.15	1.78	16.46	34.11	65.89
Converted Paper Product Manufacturing (NAICS 3222)	15.00	2.69	3.61	1.06	17.52	39.88	60.12
Activities Related to Real Estate (NAICS 5313)	4.29	1.69	1.66	0.05	20.64	28.32	71.68
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)	18.41	0.06	0.13	0.13	14.64	33.38	66.62
Other Heavy and Civil Engineering Construction (NAICS 2379)	8.76	1.99	3.41	0.45	10.28	24.89	75.11
Spring and Wire Product Manufacturing (NAICS 3326)	10.47	3.51	4.61	0.83	15.87	35.28	64.72
Outpatient Care Centers (NAICS 6214)	0.00	0.88	0.88	0.00	0.00	1.77	98.23
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)	1.09	2.37	0.01	3.14	6.87	13.48	86.52
Freight Transportation Arrangement (NAICS 4885)	17.82	4.09	7.34	0.18	11.67	41.11	58.89
Aquaculture (NAICS 1125)	11.58	3.90	5.12	0.91	17.41	38.92	61.08
Farm Product Raw Material Merchant Wholesalers (NAICS 4245)	13.36	3.79	5.01	0.89	16.57	39.63	60.37
Rubber Product Manufacturing (NAICS 3262)	13.04	3.32	4.41	0.63	12.03	33.43	66.57
Depository Credit Intermediation (NAICS 5221)	0.19	0.00	0.42	0.00	0.44	1.06	98.94
General Freight Trucking (NAICS 4841)	14.27	4.15	5.16	0.85	15.91	40.33	59.67
Audio and Video Equipment Manufacturing (NAICS 3343)	15.37	3.02	6.87	0.86	16.75	42.86	57.14
Fruit and Vegetable Preserving and Specialty Food Manufacturing (NAICS 3114)	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Other Telecommunications (NAICS 5179)	13.02	3.91	5.24	0.92	16.58	39.66	60.34
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)	8.56	0.75	1.35	0.07	14.61	25.34	74.66
Other Wood Product Manufacturing (NAICS 3219)	11.67	3.73	4.95	0.98	19.25	40.58	59.42
Cement and Concrete Product Manufacturing (NAICS 3273)	2.25	2.66	0.00	0.00	13.30	18.20	81.80
Travel Arrangement and Reservation Services (NAICS 5615)	12.80	3.83	5.23	1.02	18.97	41.86	58.14

M/WBE Availability in the State of Maryland's Market Area

Detailed Industry Group	African American	Hispanic	Asian	Native American	Non-minority Female	M/WBE	Non-M/WBE
Lime and Gypsum Product Manufacturing (NAICS 3274)	7.65	2.73	3.55	0.55	10.11	24.59	75.41
Support Activities for Animal Production (NAICS 1152)	11.87	3.48	4.86	1.10	21.83	43.14	56.86
Legal Services (NAICS 5411)	5.16	3.53	0.26	0.04	21.42	30.42	69.58
Educational Support Services (NAICS 6117)	25.75	0.71	3.31	2.37	10.40	42.54	57.46
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)	10.28	0.06	7.17	0.04	18.00	35.55	64.45
Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing (NAICS 3252)	6.87	0.04	0.07	0.07	8.03	15.08	84.92
Offices of Dentists (NAICS 6212)	6.41	2.30	10.10	1.80	17.54	38.15	61.85
Other Amusement and Recreation Industries (NAICS 7139)	12.46	3.80	5.05	0.95	18.00	40.26	59.74

Sources and Notes: See Table 3.15.

IV. Market-Based Disparities in Business Formation and Business Owner Earnings

A. Introduction

In this chapter, we examine disparities in business formation and earnings in the private sector, where contracting activities are generally *not* subject to M/WBE or other affirmative action requirements. Statistical examination of disparities in the private sector of the relevant geographic market area is important for at least two reasons. First, to the extent that discriminatory practices by contractors, suppliers, insurers, lenders, customers, and others limit the ability of M/WBEs to compete, those practices will impact the larger private sector as well as the public sector. Second, examining the utilization of M/WBEs in the private sector provides an indicator of the extent to which M/WBEs are used in the absence of race- and gender-conscious efforts, since few firms in the private sector make such efforts.

There is a significant body of research on the economics of entrepreneurship and self-employment,⁶⁶ and there exists significant agreement on the microeconomic correlates of self-employment.⁶⁷ In the U.S., it is known that self-employment rises with age, is higher among men than women, and higher among non-minorities than minorities. The least educated have the highest probability of being self-employed. However, there is evidence in the U.S. that the most highly educated also have a relatively high probability of self-employment. On average, however, increases in educational attainment are generally found to lead to increases in the probability of being self-employed. A higher number of children in the family increases the likelihood of self-employment, at least for men. Workers in agriculture and construction, by contrast, are also relatively more likely to be self-employed, despite lower average levels of education.

There has been relatively less work on how institutional factors influence self-employment. Such work that has been conducted includes examining the role of minimum wage legislation (Blau, 1987), immigration (Fairlie and Meyer, 1998 and 2003; Olson, Zuiker and Montalto, 2000; Mora and Dávila, 2006; Robles and Cordero-Guzmán, 2007),⁶⁸ immigration policy (Borjas and

⁶⁶ Microeconomic work includes Fuchs (1982), Borjas and Bronars (1989), Evans and Jovanovic (1989), Evans and Leighton (1989), Fairlie and Meyer (1996, 1998), Reardon (1998), Fairlie (1999), Wainwright (2000), Blanchflower and Wainwright (2005), and Blanchflower (2009) for the United States; Rees and Shah (1986), Pickles and O'Farrell (1987), Blanchflower and Oswald (1990, 1998), Meager (1992), Taylor (1996), Robson (1998a, 1998b), and Blanchflower and Shadforth (2007) for the UK; DeWit and van Winden (1990) for the Netherlands; Alba-Ramirez (1994) for Spain; Bernhardt (1994), Schuetze (1998), Arai (1997), Lentz and Laband (1990), and Kuhn and Schuetze (1998) for Canada; Laferrere and McEntee (1995) for France; Blanchflower and Meyer (1994) and Kidd (1993) for Australia; and Foti and Vivarelli (1994) for Italy. There are also several theoretical papers including Kihlstrom and Laffont (1979), Kanbur (1990), Holmes and Schmitz (1990), Coate and Tennyson (1992), and Cagetti and DeNardi (2006), plus a few papers that draw comparisons across countries, e.g., Schuetze (1998) for Canada and the U.S., Blanchflower and Meyer (1994) for Australia and the U.S., Alba-Ramirez (1994) for Spain and the United States, and Acs and Evans (1994), Blanchflower (2000), Blanchflower, Oswald, and Stutzer (2001), and Blanchflower and Oswald (2008) for many countries.

⁶⁷ Parker (2004) and Aronson (1991) provide good overviews.

⁶⁸ Fairlie and Meyer (1998) found that immigration had no statistically significant impact at all on African American self-employment. In a subsequent paper, Fairlie and Meyer (2003) found that self-employed

Bronars, 1989), and retirement policies (Quinn, 1980). Studies by Long (1982), Blau (1987), and Schuetze (2000), have considered the role of taxes.⁶⁹ A number of other studies have also considered the cyclical aspects of self-employment and in particular how movements of self-employment are correlated with movements in unemployment. Meager (1992) provides a useful summary of much of this work.⁷⁰

Blanchflower, Oswald and Stutzer (2001) found that there is a strikingly large latent desire to own a business. There exists frustrated entrepreneurship on a huge scale in the U.S. and other Organization for Economic Co-operation and Development (OECD) countries.⁷¹ In the U.S., 7 out of 10 people say they would prefer to be self-employed. This compares to an actual proportion of self-employed people in 2001 of 7.3 percent of the civilian labor force, which also shows that the proportion of the labor force that is self-employed has declined steadily since 1990 following a small increase in the rate from 1980 to 1990. This raises an important question. Why do so few individuals in the U.S. and OECD countries manage to translate their preferences into action? Lack of start-up capital is one likely explanation. This factor is commonly cited by small-business managers themselves (Blanchflower and Oswald, 1998). There is also econometric evidence that confirms this barrier. Holding other influences constant, people who inherit cash, who win the lottery, or who have large family assets, are all more likely both to set up and sustain a lasting small business. By contrast, childhood personality test-scores turn out to

immigrants did displace self-employed native non-African Americans. They found that immigration has a large negative effect on the probability of self-employment among native non-African Americans, although, surprisingly, they found that immigrants increase native self-employment earnings.

⁶⁹ In an interesting study pooling individual level data for the U.S. and Canada from the Current Population Survey and the Survey of Consumer Finances, respectively, Schuetze (1998) finds that increases in income taxes have large and positive effects on the male self-employment rate. He found that a 30 percent increase in taxes generated a rise of 0.9 to 2.0 percentage points in the male self-employment rate in Canada compared with a rise of 0.8 to 1.4 percentage points in the U.S. over 1994 levels.

⁷⁰ Evans and Leighton (1989) found that nonminority men who are unemployed are nearly twice as likely as wage workers to enter self-employment. Bogenhold and Staber (1991) also find evidence that unemployment and self-employment are positively correlated. Blanchflower and Oswald (1990) found a strong negative relationship between regional unemployment and self-employment for the period 1983-1989 in the U.K. using a pooled cross-section time-series data set. Blanchflower and Oswald (1998) confirmed this result, finding that the log of the county unemployment rate entered negatively in a cross-section self-employment model for young people age 23 in 1981 and for the same people aged 33 in 1991. Taylor (1996) confirmed this result using data from the British Household Panel Study of 1991, showing that the probability of being self-employed rises when expected self-employment earnings increase relative to employee earnings, *i.e.*, when unemployment is low. Acs and Evans (1994) found evidence from an analysis of a panel of countries that the unemployment rate entered negatively in a fixed effect and random effects formulation. However, Schuetze (1998) found that for the U.S. and Canada the elasticity of the male self-employment rate with respect to the unemployment rate was considerably smaller than found for the effect from taxes discussed above. The elasticity of self-employment associated with the unemployment rate is about 0.1 in both countries using 1994 figures. A decrease of 5 percentage points in the unemployment rate in the U.S. (about the same decline occurred from 1983-1989) leads to about a 1 percentage point decrease in self-employment. Blanchflower (2000) found that there is generally a negative relationship between the self-employment rate and the unemployment rate. It does seem then that there is some disagreement in the literature on whether high unemployment acts to discourage self-employment because of the lack of available opportunities or encourage it because of the lack of viable alternatives.

⁷¹ The OECD is an international organization of those developed countries that accept the principles of representative democracy and a free market economy. There are currently 30 full members.

have almost no predictive power about which persons will be running their own businesses as adults (Blanchflower and Oswald, 1998).

One primary impediment to entrepreneurship among minorities is lack of capital. In work based on U.S. micro data at the level of the individual, Evans and Leighton (1989), and Evans and Jovanovic (1989), have argued formally that entrepreneurs face liquidity constraints. The authors use the National Longitudinal Survey of Young Men for 1966-1981, and the Current Population Surveys for 1968-1987. The key test shows that, all else remaining equal, people with greater family assets are more likely to switch to self-employment from employment. This asset variable enters econometric equations significantly and with a quadratic form. Although Evans and his collaborators draw the conclusion that capital and liquidity constraints bind, this claim is open to the objection that other interpretations of their correlation are feasible. One possibility, for example, is that inherently acquisitive individuals both start their own businesses and forego leisure to build up family assets. In this case, there would be a correlation between family assets and movement into self-employment even if capital constraints did not exist. A second possibility is that the correlation between family assets and the movement to self-employment arises because children tend to inherit family firms. Blanchflower and Oswald (1998), however, find that the probability of self-employment depends positively upon whether the individual ever received an inheritance or gift.⁷² Moreover, when directly questioned in interview surveys, potential entrepreneurs say that raising capital is their principal problem. Work by Holtz-Eakin, Joulfaian and Harvey (1994a, 1994b) drew similar conclusions using different methods on U.S. data, examining flows into and out of self-employment and finding that inheritances both raise entry and slow exit. In contrast, Hurst and Lusardi (2004), citing evidence from the U.S. *Panel Study of Income Dynamics*, claim to show that wealth is not a significant determinant of entry into self-employment. In response, however, Fairlie and Krashinsky (2012) have demonstrated that when the sample is split into two segments—those who enter self-employment after job loss and those who do not—the strong correlation between assets and rate of entry in business formation is evident in both segments.

The work of Black, et al. (1996) for the United Kingdom discovers an apparently powerful role for house prices (through its impact on equity withdrawal) in affecting the supply of small new firms. Cowling and Mitchell (1997) find a similar result. Again, these are both suggestive of capital constraints. Finally, Lindh and Ohlsson (1996) adopt the Blanchflower-Oswald procedure and provide complementary evidence for Sweden. Bernhardt (1994), in a study for Canada using data from the 1981 Social Change in Canada Project, also found evidence that capital constraints appear to bind. Using the 1991 French Household Survey of Financial Assets, Laferrere and McEntee (1995) examined the determinants of self-employment using data on intergenerational transfers of wealth, education, informal human capital, and a range of demographic variables.

They also find evidence of the importance played by the family in the decision to enter self-employment. Intergenerational transfers of wealth, familial transfers of human capital, and the structure of the family, were found to be determining factors in the decision to move from wage work into entrepreneurship. Broussard, et al. (2013) found that the self-employed have between

⁷² This emerges from British data, the National Child Development Study; a birth cohort of children born in March 1958 who have been followed for the whole of their lives.

0.1 and 0.2 more children compared to the non-self-employed. The authors argue that having more children can increase the likelihood that an inside family member will be a good match at running the business. One might also think that the existence of family businesses, which are particularly prevalent in construction and in agriculture, is a further way to overcome the existence of capital constraints. Transfers of firms within families will help to preserve the status quo and will work against the interests of African Americans, in particular, who do not have as strong a history of business ownership as indigenous non-minorities. Analogously, Hout and Rosen (2000) and Fairlie and Robb (2007a) found that the offspring of self-employed parents are more likely than others to become self-employed and argued that the historically low rates of self-employment among African Americans and Latinos may contribute to their low contemporary rates. Fairlie and Robb (2007b), using data from the U.S. *Characteristics of Business Owners Survey*, and Dunn and Holtz-Eakin (2000), using data from the U.S. *National Longitudinal Surveys*, show that the transmission of positive effects of family on self-employment operates through two channels, intergenerational transmission of entrepreneurial preferences and wealth, and the acquisition of general and specific human capital.

A continuing puzzle in the literature has been why, nationally, the self-employment rate of African American males is one-third of that of nonminority males and has remained roughly constant since 1910. Fairlie and Meyer (2000) rule out a number of explanations for the difference. They found that trends in demographic factors, including the Great Migration and the racial convergence in education levels, “did not have large effects on the trend in the racial gap in self-employment” (p. 662). They also found that an initial lack of business experience “cannot explain the current low levels of black self-employment.” Further, they found that “the lack of traditions in business enterprise among blacks that resulted from slavery cannot explain a substantial part of the current racial gap in self-employment” (p. 664).

Fairlie (1999) and Wainwright (2000) have shown that a considerable part of the explanation of the differences between the African American and nonminority self-employment rate can be attributed to discrimination. Using the 5 percent Public Use Microdata Sample data (“PUMS”) from the 1990 Census, Wainwright (2000) demonstrated that these disparities tend to persist even when factors such as geography, industry, occupation, age, education and assets are held constant.⁷³

Bates (1989) finds strong supporting evidence that racial differences in levels of financial capital have significant effects upon racial patterns in business failure rates. Fairlie (1999, 2006)

⁷³ In Wainwright (2000), the author conducted a series of regression analyses, similar to those reported in Chapter IV, that examined racial differences among males in business formation rates and business owner earnings while holding a large set of control factors constant. Separate regressions were conducted for each of the nine Census geographic divisions. In addition to race, the following factors were controlled for: educational attainment, age, marital status, non-mover status, number of workers in the family, number of children, immigrant status, years in the U.S., English language proficiency, work-limiting disability, veteran status, years of military services, interest and dividend income, usual weeks worked per year, and usual hours worked per week, industry, and occupation. Additionally, a set of local labor market variables was included for each Census division, including the unemployment rate, population size, population growth rate, the government employment rate, and per capita income. The results, in general, showed large and statistically significant disparities in both sets of regressions for all minority groups examined. The findings were strongest for African Americans, followed by Native Americans and Hispanics. Large disparities were documented for Asians as well in many instances.

demonstrates, for example, that the African American exit rate from self-employment is twice as high as that of non-minorities. An example will help to make the point. Two baths are being filled with water. In the first scenario, both have the plug in. Water flows into bath A at the same rate as it does into bath B—that is, the inflow rate is the same. When we return after ten minutes the amount of water (the stock) will be the same in the two baths as the inflow rates were the same. In the second scenario, we take out the plugs and allow for the possibility that the outflow rates from the two baths are different. Bath A (the African American firms) has a much larger drain and hence the water flows out more quickly than it does from bath B (the nonminority firms). When we return after 10 minutes, even though the inflow rates are the same there is much less water in bath A than there is in bath B. A lower exit rate for nonminority-owned firms than is found for minority-owned firms is perfectly consistent with the observed fact that minority-owned firms are younger and smaller than nonminority-owned firms. The extent to which that will be true is a function of the relative sizes of the inflow and the outflow rates.

B. Race and Gender Disparities in Wage and Salary Earnings

In this section, we examine earnings to determine whether minority and female entrepreneurs earn less from their businesses than do their nonminority male counterparts. Other things equal, if minority and female business owners as a group cannot achieve comparable earnings from their businesses as similarly situated nonminorities because of discrimination, then failure rates for M/WBEs will be higher and M/WBE formation rates will be lower than would be observed in a race- and gender-neutral market area. Both phenomena would contribute directly to lower levels of minority and female business ownership.

Below, we first examine earnings disparities among wage and salary employees, that is, non-business owners. It is helpful to examine this segment of the labor force since a key source of new entrepreneurs in any given industry is the pool of experienced wage and salary workers in similar or related industries (Blanchflower 2000). Therefore, employment discrimination that adversely impacts the ability of minorities or women to succeed in the labor force directly shrinks the available pool of potential M/WBEs. In every instance examined, a statistically significant disparity in wage and salary earnings is observed—in the economy at large, and in the Construction, AE-CRS, Maintenance, IT, Services, and CSE sectors.⁷⁴

We then turn to an examination of differences in earnings among the self-employed, that is, among business owners. Here too, among the pool of minorities and women who have formed businesses despite discrimination in both employment opportunities and business opportunities, statistically significant disparities are observed in the vast majority of cases in the economy as a whole and in the Construction, AE-CRS, Maintenance, IT, Services, and CSE sectors.

⁷⁴ There is a substantial body of evidence that discriminatory constraints in the capital market prevent minority-owned businesses from obtaining business loans. Furthermore, even when they are able to obtain them, there is evidence that these loans are not obtained on equal terms: minority-owned firms have to pay higher interest rates, other things being equal. This is another form of discrimination with an obvious and direct impact on the ability of racial minorities to form businesses and to expand or grow previously formed businesses. *See* Chapter V, *infra*.

In the remainder of this chapter, we discuss the methods and data we employed and present the specific findings.

1. Methods

We used the statistical technique of linear regression analysis to estimate the effect of each of a set of observable characteristics, such as education and age, on an outcome variable of interest. In this case, the outcome variable of interest is earnings and we used regression to compare earnings among individuals in similar geographic and product markets at similar points in time and with similar years of education and potential labor market experience and see if any adverse race or gender differences remain. In a discrimination free market area, one would not expect to observe significant differences in earnings by race or gender among such similarly situated observations.

Regression also allows us to narrowly tailor our statistical tests to the State of Maryland's relevant geographic market, and assess whether disparities in that market are statistically significantly different from those observed elsewhere in the nation. Starting from an economy-wide data set, we first estimated the basic model of earnings differences just described and also included an indicator variable for the State of Maryland Market Area (MDMA), which is comprised of the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area.⁷⁵ This variable estimates the differential effect of location in the MDMA relevant to the rest of the country. This model appears as Specification 1 in Tables 4.1 through 4.7. Next, we estimated Specification 2, which is the same model as Specification 1 but with the addition of indicator variables that interact race and gender with the MDMA indicator. These variables estimate the differential effect of location in the MDMA *and* membership in the given race or gender group. Specification 3 represents our ultimate specification, which includes all of the variables from the basic model as well as any of the interaction terms from Specification 2 that were statistically significant.⁷⁶

Any negative and statistically significant differences by race or gender that remain in Specification 3 after holding all of these other factors constant—time, age, education, geography, and industry—are consistent with what would be observed in a market suffering from business-related discrimination.⁷⁷

⁷⁵ Footnote 38 lists the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area.

⁷⁶ If none of these terms is significant, then Specification 3 reduces to Specification 1.

⁷⁷ Typically, a given test statistic is considered to be statistically significant if there is a reasonably low probability that the value of the statistic is due to random chance alone. Unless otherwise indicated, in this and subsequent chapters, we employ three levels of statistical significance, corresponding to 10 percent, 5 percent, and 1 percent probabilities that results were the result of random chance.

2. Data

The analyses undertaken in this Study require individual-level data (*i.e.*, “microdata”) with relevant information on business ownership status and other key socioeconomic characteristics. The data source used is the American Community Survey (ACS) Public Use Microdata Sample (PUMS) for 2010–2014. The Census Bureau’s ACS is an ongoing survey covering the same type of information collected in the decennial census. The ACS is sent to approximately 3.5 million addresses annually, including housing units in all counties in the 50 states and the District of Columbia.⁷⁸ The PUMS file from the ACS contains records for a subsample of the full ACS. The data used here are the multi-year estimates combining the 2010 through 2014 ACS PUMS records. The combined file contains over six million person-level records. The 2010-2014 ACS PUMS provides the full range of population and housing information collected in the annual ACS and in the decennial census. Business ownership status is identified in the ACS PUMS through the “class of worker” variable, which distinguishes the unincorporated and incorporated self-employed from others in the labor force. The presence of the class of worker variable allows us to construct a detailed cross-sectional sample of individual business owners and their associated earnings.

3. Findings: Race and Gender Disparities in Wage and Salary Earnings

Tables 4.1 through 4.7 report results from our regression analyses of annual earnings among wage and salary workers in those industries most relevant to State of Maryland contracting and procurement. Table 4.1 focuses on the economy as a whole, Table 4.2 on Construction, Table 4.3 on AE-CRS, Table 4.4 on Maintenance, Table 4.5 on IT, Table 4.6 on Services, and Table 4.7 on CSE.⁷⁹ The numbers shown in each table indicate the percentage difference in that sector between the average annual wages of a given race/gender group and comparable nonminority males.

a. Specification 1 - the Basic Model

For example, in Table 4.1 Specification 1, the estimated percentage difference in average annual wages between African Americans (both genders) and nonminority males in 2010–2014 was -38.8 percent. That is, average annual wages among African Americans were 38.8 percent lower than for nonminority males who were otherwise similar in terms of geographic location, industry, age, and education. The number in parentheses below each percentage difference is the t-statistic, which indicates whether the estimated percentage difference is statistically significant or not. In Tables 4.1 through 4.7, a t-statistic of 1.96 or larger indicates statistical significance at a 95 percent confidence level or better, while a t-statistic of 1.64 or larger indicates statistical significance at a 90 percent confidence level or better.⁸⁰ In the example just used, the t-statistic of 251.16 indicates that the result is statistically significant at better than a 95 percent level of confidence.

⁷⁸ U.S. Census Bureau (2013).

⁷⁹ Procurement categories for Tables 4.2 through 4.7 are based on the top 95 percent of industries relevant to State of Maryland procurement, as described above in Tables 2.7 through 2.12.

⁸⁰ From a two-tailed test.

Specification 1 in Table 4.1 shows adverse and statistically significant wage disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories, and nonminority women, consistent with the presence of discrimination in these markets. Observed disparities are large as well, ranging from -19.4 percent for Asians to -38.8 percent for African Americans.

Specification 1 in Table 4.2 shows similar results when the basic analysis is restricted to Construction. In this sector, large, adverse, and statistically significant wage disparities are once again observed for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories and nonminority women, consistent with the presence of discrimination in these markets. Observed disparities in this sector are large as well, ranging from -15.2 percent for Asians to -37.0 percent for Native Americans.

Specification 1 in Table 4.3 shows similar results when the basic analysis is restricted to AE-CRS. In this sector, large, adverse, and statistically significant wage disparities are once again observed for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories and nonminority women, consistent with the presence of discrimination in these markets. Observed disparities in this sector are large as well, ranging from -13.0 percent for Asians to -38.5 percent for African Americans.

Specification 1 in Table 4.4 shows similar results when the basic analysis is restricted to Maintenance. In this sector, large, adverse, and statistically significant wage disparities are once again observed for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories and nonminority women, consistent with the presence of discrimination in these markets. Observed disparities in this sector are large as well, ranging from -13.0 percent for Asians to -35.6 percent for Native Americans.

Specification 1 in Table 4.5 shows similar results when the basic analysis is restricted to IT. In this sector, large, adverse, and statistically significant wage disparities are once again observed for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories and nonminority women, consistent with the presence of discrimination in these markets. Observed disparities in this sector are large as well, ranging from -9.5 percent for Asians to -42.5 percent for African Americans.

Specification 1 in Table 4.6 shows similar results when the basic analysis is restricted to Services. In this sector, large, adverse, and statistically significant wage disparities are once again observed for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories and nonminority women, consistent with the presence of discrimination in these markets. Observed disparities in this sector are large as well, ranging from -15.4 percent for Asians to -38.2 percent for Native Americans.

Finally, Specification 1 in Table 4.7 for CSE also shows large, adverse, and statistically significant wage disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting in multiple race categories and nonminority women, consistent with the presence of discrimination in these markets. Observed disparities are large in this sector also, ranging from -15.4 percent for Asians to -36.6 percent for African Americans.

b. Specifications 2 and 3 - the Full Model Including State of Maryland-Specific Interaction Terms

Next, we turn to Specifications 2 and 3 in Tables 4.1 through 4.7. In each of these Tables, Specification 2 is the basic regression model with a set of interaction terms added, designed to test whether minorities and women in the MDMA differ significantly from those elsewhere in the U.S. economy. Specification 2 in Table 4.1, for example, shows a statistically significant 19.2 percent wage decrement that estimates the direct effect of being Asian in 2010–2014, as well as a statistically significant 5.6 percent wage decrement that captures the indirect effect of residing in the MDMA and being Asian. That is, wages for Asians in the MDMA, on average, were 19.2 percent lower than for Asians in the nation as a whole and 24.8 percent lower (-19.2 percent minus 5.6 percent) than for nonminority males in the MDMA. For African Americans, there is a statistically significant 2.2 percent wage increment (in Specification 2) associated with residing in the MDMA, leading to an overall wage decrement of 36.7 percent (38.9 percent plus 2.2 percent). For Hispanics, there is a 0.7 percent wage increment (in Specification 2) associated with residing in the MDMA, but this difference is not statistically significant, leading to an overall wage decrement of 29.5 percent. For Native Americans, there is a 0.1 percent wage decrement associated with residing in the MDMA, but this difference is not statistically significant, leading to an overall wage decrement of 36.9 percent. For nonminority women, there is a 0.6 percent wage increment associated with residing in the MDMA, but this difference is also not statistically significant, leading to an overall wage decrement of 32.9 percent.

Specification 3 simply repeats Specification 2, dropping any MDMA interactions that are not statistically significant in Specification 2 at a confidence level of 95 percent or better. In Table 4.1, for example, interaction terms were included in the final specification only for African Americans and Asians. The net result of Specification 3 in Table 4.1 is evidence of large, adverse, and statistically significant wage disparities for all minority groups and for nonminority women consistent with the presence of discrimination in these markets—both nationally and in the MDMA. The same is true for all the other procurement categories as well: Construction (Table 4.2), AE-CRS (Table 4.3), Maintenance (Table 4.4), IT (Table 4.5), Services (Table 4.6), and CSE (Table 4.7).

In Construction, there are two groups with additional statistically significant wage increments associated with living in the MDMA and one with a statistically significant wage decrement. African Americans have a 14.8 percent wage increment, nonminority females have an 8.0 percent wage increment, and Hispanics have a 5.3 percent wage decrement. The result for African Americans in Construction in the MDMA indicates that, on average, wages were 14.8 percent higher than for African Americans in the nation as a whole but 21.3 percent lower (-36.1 percent plus 14.8 percent) than for nonminority males in the MDMA. The result for nonminority females in Construction in the MDMA indicates that, on average, wages were 8.0 percent higher than for nonminority females in the nation as a whole but 23.1 percent lower (-31.1 percent plus 8.0 percent) than for nonminority males in the MDMA. The result for Hispanics in Construction in the MDMA indicates that, on average, wages were 5.3 percent lower than for Hispanics in the nation as a whole and 29.9 percent lower (-24.6 percent minus 5.3 percent) than for nonminority males in the MDMA. For the remaining groups—Asians, Native Americans, and persons

reporting two or more races, the adverse wage disparities observed are no different in the MDMA than in the nation as a whole.

In AE-CRS, there are two groups with additional statistically significant wage increments associated with living in the MDMA and one with a statistically significant wage decrement. African Americans have a 13.4 percent wage increment, nonminority females have a 9.9 percent wage increment, and Hispanics have a 6.4 percent wage decrement. The result for African Americans in AE-CRS in the MDMA indicates that, on average, wages were 13.4 percent higher than for African Americans in the nation as a whole and 26.0 percent lower (-39.4 percent plus 13.4 percent) than for nonminority males in the MDMA. The result for nonminority females in AE-CRS in the MDMA indicates that, on average, wages were 9.9 percent higher than for nonminority females in the nation as a whole and 23.2 percent lower (-33.1 percent plus 9.9 percent) than for nonminority males in the MDMA. The result for Hispanics in AE-CRS in the MDMA indicates that, on average, wages were 6.4 percent lower than for Hispanics in the nation as a whole and 31.4 percent lower (-25.0 percent minus 6.4 percent) than for nonminority males in the MDMA. For the remaining groups—Asians, Native Americans, and persons reporting two or more races, the adverse wage disparities observed are no different in the MDMA than in the nation as a whole.

In Maintenance, there are two groups with additional statistically significant wage increments associated with living in the MDMA. African Americans have a 10.9 percent wage increment and nonminority females have an 8.3 percent wage increment. The result for African Americans in Maintenance in the MDMA indicates that, on average, wages were 10.9 percent higher than for African Americans in the nation as a whole and 24.7 percent lower (-35.6 percent plus 10.9 percent) than for nonminority males in the MDMA. The result for nonminority females in Maintenance in the MDMA indicates that, on average, wages were 8.3 percent higher than for nonminority females in the nation as a whole and 25.0 percent lower (-33.3 percent plus 8.3 percent) than for nonminority males in the MDMA. For the remaining groups—Hispanics, Asians, Native Americans, and persons reporting two or more races, the adverse wage disparities observed are no different in the MDMA than in the nation as a whole.

In IT, there are three groups with additional statistically significant wage increments associated with living in the MDMA and one with a statistically significant wage decrement. African Americans have a 16.9 percent wage increment, nonminority females have a 3.7 percent wage increment, persons reporting two or more races have a 9.6 percent wage increment, and Asians have an 8.0 percent wage decrement. The result for African Americans in IT in the MDMA indicates that, on average, wages were 16.9 percent higher than for African Americans in the nation as a whole and 26.6 percent lower (-43.5 percent plus 16.9 percent) than for nonminority males in the MDMA. The result for nonminority females in IT in the MDMA indicates that, on average, wages were 3.7 percent higher than for nonminority females in the nation as a whole and 25.4 percent lower (-29.1 percent plus 3.7 percent) than for nonminority males in the MDMA. The result for persons reporting two or more races in IT in the MDMA indicates that, on average, wages were 9.6 percent higher than for persons reporting two or more races in the nation as a whole and 16.9 percent lower (-26.5 percent plus 9.6 percent) than for nonminority males in the MDMA. The result for Asians in IT in the MDMA indicates that, on average, wages were 8.0 percent lower than for Asians in the nation as a whole and 16.9 percent lower (-8.9 percent minus 8.0 percent) than for nonminority males in the MDMA. For the remaining

groups—Hispanics, Native Americans, the adverse wage disparities observed are no different in the MDMA than in the nation as a whole.

In Services, there is one group with an additional statistically significant wage increment associated with living in the MDMA and one with a statistically significant wage decrement. African Americans have a 5.8 percent wage increment and Asians have a 7.0 percent wage decrement. The result for African Americans in Services in the MDMA indicates that, on average, wages were 5.8 percent higher than for African Americans in the nation as a whole and 32.4 percent lower (-38.2 percent plus 5.8 percent) than for nonminority males in the MDMA. The result for Asians in Services in the MDMA indicates that, on average, wages were 7.0 percent lower than for Asians in the nation as a whole and 22.0 percent lower (-15.0 percent minus 7.0 percent) than for nonminority males in the MDMA. For the remaining groups—Hispanics, Native Americans, persons reporting two or more races, and nonminority females, the adverse wage disparities observed are no different in the MDMA than in the nation as a whole.

In CSE, there is one group with an additional statistically significant wage decrement associated with living in the MDMA. Asians have a 6.6 percent wage decrement. The result for Asians in CSE in the MDMA indicates that, on average, wages were 6.6 percent lower than for Asians in the nation as a whole and 21.7 percent lower (-15.1 percent minus 6.6 percent) than for nonminority males in the MDMA. For the remaining groups—African Americans, Hispanics, Native Americans, persons reporting two or more races, and nonminority females, the adverse wage disparities observed are no different in the MDMA than in the nation as a whole.

c. Conclusions

Tables 4.1 through 4.7 demonstrate that minorities and women earn substantially and significantly less from their labor than do their similarly situated nonminority male counterparts—in the nation as a whole and in the State of Maryland Market Area in particular. Such disparities are consistent with the presence of discrimination in the labor force that, in addition to its direct effect on workers, reduces the future availability of M/WBEs by stifling opportunities for minorities and women to progress through precisely those internal labor markets and occupational hierarchies that are most likely to lead to acquiring the skills, experience and contacts necessary to take advantage of entrepreneurial opportunities.⁸¹ They also demonstrate that discrimination results in less opportunity for minorities and women to accumulate and save business start-up capital through their work as employees. These disparities reflect more than just “societal discrimination” because they indicate a nexus between discrimination in the job market and reduced entrepreneurial opportunities for minorities and women. Other things equal, these reduced entrepreneurial opportunities, in turn, lead to lower M/WBE availability levels than would be expected if the market area were race- and gender-neutral.

⁸¹ See, e.g., Ruetschlin and Asante-Muhammad (2015), Hamilton, et al. (2011), Pitts (2007).

Table 4.1. Annual Wage Earnings Regressions, All Industries, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.388 (251.16)	-0.389 (243.81)	-0.389 (244.08)
Hispanic	-0.295 (203.22)	-0.295 (200.89)	-0.295 (203.10)
Asian	-0.194 (96.35)	-0.192 (92.64)	-0.192 (92.71)
Native American	-0.369 (69.20)	-0.369 (68.79)	-0.369 (69.19)
Two or more races	-0.298 (94.41)	-0.298 (92.43)	-0.298 (94.38)
Nonminority Female	-0.328 (338.26)	-0.329 (333.56)	-0.328 (338.27)
Age	0.201 (719.15)	0.201 (719.15)	0.201 (719.15)
Age ²	-0.002 (625.28)	-0.002 (625.28)	-0.002 (625.28)
MDMA	0.405 (60.10)	0.408 (51.75)	0.412 (59.48)
MDMA*African American		0.022 (2.74)	0.019 (2.56)
MDMA*Hispanic		0.007 (0.67)	n/a
MDMA*Asian		-0.056 (5.65)	-0.059 (6.27)
MDMA*Native American		-0.001 (0.02)	n/a
MDMA*Two or more races		-0.007 (0.39)	n/a
MDMA*Nonminority Female		0.006 (1.00)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	3,967,952	3,967,952	3,967,952
Adj. R ²	.3970	.3970	.3970

Source: NERA calculations from the 2010-2014 ACS Public Use Microdata Sample.

Notes: (1) See above, section B.3.(a)-(b) for a description of Specifications 1 through 3; (2) Universe is all private sector wage and salary workers between the ages of 16 and 64; observations with imputed values to the dependent variable and all independent variables are excluded; (3) Reported number is the percentage difference in annual wages between a given group and nonminority men; (4) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at a 90 (95) (99) percent confidence level; (5) Geography is defined based on place of residence; (6) “MDMA” is shorthand for “State of Maryland Market Area,” which includes the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area; (7) “n/a” in Specification 3 means that the category was not included in the regression because it was not statistically significant in Specification 2, as described above in section B.3.b; (8) The “Yes” values next to the “Education,” “Geography” and “Industry” rows indicate that control variables were included in the regression specification for these factors.

Table 4.2. Annual Wage Earnings Regressions, Construction, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.354 (75.34)	-0.361 (74.19)	-0.361 (74.19)
Hispanic	-0.247 (68.89)	-0.246 (67.44)	-0.246 (67.48)
Asian	-0.152 (20.39)	-0.151 (19.72)	-0.151 (20.29)
Native American	-0.370 (28.74)	-0.370 (28.44)	-0.371 (28.75)
Two or more races	-0.243 (25.58)	-0.244 (25.27)	-0.243 (25.55)
Nonminority Female	-0.308 (99.43)	-0.311 (98.28)	-0.311 (98.30)
Age	0.155 (196.31)	0.155 (196.32)	0.155 (196.32)
Age ²	-0.001 (171.93)	-0.001 (171.95)	-0.001 (171.95)
MDMA	0.512 (29.27)	0.490 (25.93)	0.491 (26.51)
MDMA*African American		0.149 (6.52)	0.148 (6.53)
MDMA*Hispanic		-0.052 (2.76)	-0.053 (2.83)
MDMA*Asian		-0.004 (0.12)	n/a
MDMA*Native American		-0.089 (0.73)	n/a
MDMA*Two or more races		0.065 (1.13)	n/a
MDMA*Nonminority Female		0.081 (4.19)	0.080 (4.19)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	521,357	521,357	521,357
Adj. R ²	.2496	.2497	.2497

Source and Notes: See Table 4.1.

Table 4.3. Annual Wage Earnings Regressions, AE-CRS, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.385 (56.04)	-0.394 (53.94)	-0.394 (53.96)
Hispanic	-0.253 (54.21)	-0.250 (52.66)	-0.250 (52.75)
Asian	-0.130 (14.97)	-0.126 (13.73)	-0.129 (14.79)
Native American	-0.375 (23.81)	-0.374 (23.51)	-0.375 (23.83)
Two or more races	-0.243 (20.52)	-0.244 (19.95)	-0.243 (20.47)
Nonminority Female	-0.326 (83.17)	-0.330 (81.70)	-0.331 (81.78)
Age	0.157 (152.53)	0.157 (152.54)	0.157 (152.54)
Age ²	-0.002 (134.09)	-0.002 (134.10)	-0.002 (134.10)
MDMA	0.561 (28.78)	0.536 (25.54)	0.530 (25.96)
MDMA*African American		0.131 (4.73)	0.134 (4.88)
MDMA*Hispanic		-0.067 (2.99)	-0.064 (2.89)
MDMA*Asian		-0.036 (1.17)	n/a
MDMA*Native American		-0.074 (0.54)	n/a
MDMA*Two or more races		0.022 (0.37)	n/a
MDMA*Nonminority Female		0.095 (4.93)	0.099 (5.18)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	332,324	332,324	332,324
Adj. R ²	.2296	.2297	.2297

Source and Notes: See Table 4.1.

Table 4.4. Annual Wage Earnings Regressions, Maintenance, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.351 (86.95)	-0.356 (85.13)	-0.356 (85.21)
Hispanic	-0.254 (75.18)	-0.253 (74.00)	-0.254 (75.20)
Asian	-0.130 (22.01)	-0.128 (21.17)	-0.130 (21.96)
Native American	-0.356 (29.30)	-0.355 (28.94)	-0.356 (29.32)
Two or more races	-0.240 (28.59)	-0.240 (28.13)	-0.239 (28.56)
Nonminority Female	-0.331 (123.90)	-0.333 (122.54)	-0.333 (122.71)
Age	0.160 (221.53)	0.160 (221.51)	0.160 (221.50)
Age ²	-0.002 (195.29)	-0.002 (195.26)	-0.002 (195.26)
MDMA	0.485 (29.83)	0.465 (26.51)	0.454 (27.32)
MDMA*African American		0.101 (5.10)	0.109 (5.58)
MDMA*Hispanic		-0.028 (1.37)	n/a
MDMA*Asian		-0.050 (1.63)	n/a
MDMA*Native American		-0.097 (0.89)	n/a
MDMA*Two or more races		0.035 (0.70)	n/a
MDMA*Nonminority Female		0.076 (4.25)	0.083 (4.78)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	607,296	607,296	607,296
Adj. R ²	.2357	.2357	.2357

Source and Notes: See Table 4.1.

Table 4.5. Annual Wage Earnings Regressions, IT, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.425 (91.23)	-0.435 (88.83)	-0.435 (88.88)
Hispanic	-0.282 (73.89)	-0.282 (72.61)	-0.282 (73.91)
Asian	-0.095 (18.45)	-0.089 (16.52)	-0.089 (16.55)
Native American	-0.396 (28.39)	-0.395 (28.07)	-0.396 (28.43)
Two or more races	-0.261 (29.48)	-0.264 (29.07)	-0.265 (29.08)
Nonminority Female	-0.289 (98.09)	-0.291 (95.92)	-0.291 (96.05)
Age	0.170 (202.59)	0.169 (202.55)	0.169 (202.56)
Age ²	-0.002 (179.39)	-0.002 (179.36)	-0.002 (179.36)
MDMA	0.528 (33.66)	0.515 (30.19)	0.514 (30.81)
MDMA*African American		0.168 (8.09)	0.169 (8.25)
MDMA*Hispanic		-0.007 (0.32)	n/a
MDMA*Asian		-0.081 (4.22)	-0.080 (4.21)
MDMA*Native American		-0.057 (0.47)	n/a
MDMA*Two or more races		0.095 (2.11)	0.096 (2.14)
MDMA*Nonminority Female		0.036 (2.41)	0.037 (2.54)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	536,994	536,994	536,994
Adj. R ²	.3052	.3053	.3053

Source and Notes: See Table 4.1.

Table 4.6. Annual Wage Earnings Regressions, Services, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.379 (142.53)	-0.382 (138.44)	-0.382 (138.69)
Hispanic	-0.263 (108.35)	-0.262 (106.57)	-0.263 (108.27)
Asian	-0.154 (44.94)	-0.150 (42.32)	-0.150 (42.43)
Native American	-0.382 (42.52)	-0.382 (42.22)	-0.382 (42.52)
Two or more races	-0.281 (53.00)	-0.282 (52.18)	-0.280 (52.97)
Nonminority Female	-0.304 (178.88)	-0.304 (175.56)	-0.304 (178.89)
Age	0.188 (393.22)	0.188 (393.24)	0.188 (393.23)
Age ²	-0.002 (342.64)	-0.002 (342.66)	-0.002 (342.66)
MDMA	0.449 (42.40)	0.460 (37.98)	0.455 (41.79)
MDMA*African American		0.054 (4.22)	0.058 (4.84)
MDMA*Hispanic		-0.018 (1.24)	n/a
MDMA*Asian		-0.074 (4.98)	-0.070 (4.95)
MDMA*Native American		0.044 (0.48)	n/a
MDMA*Two or more races		0.058 (1.87)	n/a
MDMA*Nonminority Female		-0.009 (0.88)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	1,390,754	1,390,754	1,390,754
Adj. R ²	.4299	.4299	.4299

Source and Notes: See Table 4.1.

Table 4.7. Annual Wage Earnings Regressions, CSE, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.366 (149.19)	-0.367 (144.33)	-0.366 (149.25)
Hispanic	-0.250 (116.83)	-0.250 (115.34)	-0.250 (116.72)
Asian	-0.154 (51.93)	-0.151 (49.44)	-0.151 (49.46)
Native American	-0.356 (43.85)	-0.356 (43.58)	-0.356 (43.84)
Two or more races	-0.259 (53.79)	-0.259 (52.78)	-0.259 (53.78)
Nonminority Female	-0.290 (190.64)	-0.290 (187.57)	-0.290 (190.65)
Age	0.195 (467.92)	0.195 (467.93)	0.195 (467.93)
Age ²	-0.002 (406.12)	-0.002 (406.13)	-0.002 (406.13)
MDMA	0.399 (42.06)	0.406 (38.11)	0.410 (42.27)
MDMA*African American		0.016 (1.37)	n/a
MDMA*Hispanic		0.001 (0.05)	n/a
MDMA*Asian		-0.063 (4.65)	-0.066 (5.07)
MDMA*Native American		0.039 (0.46)	n/a
MDMA*Two or more races		0.019 (0.68)	n/a
MDMA*Nonminority Female		0.002 (0.23)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	1,668,823	1,668,823	1,668,823
Adj. R ²	.4483	.4483	.4483

Source and Notes: See Table 4.1.

4. Findings: Race and Gender Disparities in Business Owner Earnings

The patterns of discrimination that affect minority and female wage earners affect minority and female entrepreneurs as well. We turn next to the analysis of race and gender disparities in business owner earnings. Table 4.8 focuses on the economy as a whole, Table 4.9 on Construction, Table 4.10 on AE-CRS, Table 4.11 on Maintenance, Table 4.12 on IT, Table 4.13 on Services, and Table 4.14 on CSE.⁸² The numbers shown in each table indicate the percentage difference in that sector between the average annual self-employment earnings of a given race/gender group and comparable nonminority males.

a. Specification 1 - the Basic Model⁸³

Specification 1 in Table 4.8 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting two or more races and nonminority women, consistent with the presence of discrimination in these markets. Business earnings for African Americans are 41.8 percent lower than for comparable nonminority males; for Hispanics, they are 23.4 percent lower; for Asians, they are 8.1 percent lower; for Native Americans, they are 43.8 percent lower; for persons reporting two or more races, they are 37.1 percent lower; and for nonminority women, they are 39.1 percent lower.

Turning to Construction, Specification 1 in Table 4.9 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting two or more races and nonminority women, consistent with the presence of discrimination in these markets. Business earnings for African Americans are 41.9 percent lower than for comparable nonminority males; for Hispanics, they are 11.0 percent lower; for Asians, they are 18.9 percent lower; for Native Americans, they are 40.6 percent lower; for persons reporting two or more races, they are 32.2 percent lower; and for nonminority women, they are 39.0 percent lower.

For AE-CRS, Specification 1 in Table 4.10 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting two or more races and nonminority women, consistent with the presence of discrimination in these markets. Business earnings for African Americans are 45.5 percent lower than for comparable nonminority males; for Hispanics, they are 14.1 percent lower; for Asians, they are 20.2 percent lower; for Native Americans, they are 34.2 percent lower; for persons reporting two or more races, they are 30.7 percent lower; and for nonminority women, they are 38.1 percent lower.

For Maintenance, Specification 1 in Table 4.11 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting two or more races and nonminority women, consistent with the

⁸² Procurement categories for Tables 4.9 through 4.14 are based on the top 95 percent of industries relevant to State of Maryland procurement, as described above in Tables 2.7 through 2.12.

⁸³ See above, section B.3.a., for a detailed description of Specification 1.

presence of discrimination in these markets. Business earnings for African Americans are 40.4 percent lower than for comparable nonminority males; for Hispanics, they are 14.0 percent lower; for Asians, they are 15.1 percent lower; for Native Americans, they are 36.7 percent lower; for persons reporting two or more races, they are 28.4 percent lower; and for nonminority women, they are 38.3 percent lower.

For IT, Specification 1 in Table 4.12 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting two or more races and nonminority women, consistent with the presence of discrimination in these markets. Business earnings for African Americans are 47.6 percent lower than for comparable nonminority males; for Hispanics, they are 13.2 percent lower; for Asians, they are 16.1 percent lower; for Native Americans, they are 33.9 percent lower; for persons reporting two or more races, they are 31.6 percent lower; and for nonminority women, they are 27.1 percent lower.

For Services, Specification 1 in Table 4.13 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting two or more races and nonminority women, consistent with the presence of discrimination in these markets. Business earnings for African Americans are 46.6 percent lower than for comparable nonminority males; for Hispanics, they are 15.2 percent lower; for Asians, they are 5.1 percent lower; for Native Americans, they are 39.9 percent lower; for persons reporting two or more races, they are 33.9 percent lower; and for nonminority women, they are 37.0 percent lower.

For CSE, Specification 1 in Table 4.14 shows large, adverse, and statistically significant business owner earnings disparities for African Americans, Hispanics, Native Americans, persons reporting two or more races and nonminority women, consistent with the presence of discrimination in these markets. Business earnings for African Americans are 42.5 percent lower than for comparable nonminority males; for Hispanics, they are 15.7 percent lower; for Native Americans, they are 37.9 percent lower; for persons reporting two or more races, they are 31.6 percent lower; and for nonminority women, they are 37.9 percent lower.

b. Specifications 2 and 3 - the Full Model Including State of Maryland-Specific Interaction Terms⁸⁴

Next, we turn to Specifications 2 and 3 in Tables 4.8 through 4.14. Specification 2 is the basic regression model enhanced by a set of interaction terms to test whether minorities and women in the MDMA differ significantly from those elsewhere in the U.S. economy. Specification 3 drops any MDMA interaction terms that are not statistically significant.

For the economy as a whole in 2010-2014, Table 4.8 shows that none of the MDMA interaction terms is statistically significant at a 95 percent level or better, indicating that disparities are, on average, no better or worse in the MDMA than what is observed for the nation as a whole.

⁸⁴ See above, section B.3.b., for a detailed description of Specifications 2 and 3.

For Construction, Table 4.9 shows that none of the MDMA interaction terms is statistically significant, indicating that disparities are, on average, no better or worse in the MDMA than what is observed for the nation as a whole.

For AE-CRS, Table 4.10 shows that none of the MDMA interaction terms is statistically significant, indicating that disparities are, on average, no better or worse in the MDMA than what is observed for the nation as a whole.

For Maintenance, Table 4.11 shows that none of the MDMA interaction terms is statistically significant, indicating that disparities are, on average, no better or worse in the MDMA than what is observed for the nation as a whole.

For IT, Table 4.12 shows that none of the MDMA interaction terms is statistically significant, indicating that disparities are, on average, no better or worse in the MDMA than what is observed for the nation as a whole.

For Services, Table 4.13 shows that none of the MDMA interaction terms is statistically significant, indicating that disparities are, on average, no better or worse in the MDMA than what is observed for the nation as a whole.

For CSE, Table 4.14 shows that none of the MDMA interaction terms is statistically significant, indicating that disparities are, on average, no better or worse in the MDMA than what is observed for the nation as a whole.

c. Conclusions

As was the case for wage and salary earners, minority and female entrepreneurs earn substantially and significantly less from their efforts than similarly situated nonminority male entrepreneurs. The situation, in general, differs little in the State of Maryland Market Area from that which is observed for the nation as a whole. These disparities are consistent with the presence of discrimination in commercial markets that adversely affects M/WBEs. Other things equal, if minorities and women are prevented by discrimination from earning remuneration from their entrepreneurial efforts comparable to that of similarly situated nonminority males, then capital reinvestment and growth rates may slow, business failure rates may increase and, as demonstrated in the next section, business formation rates may decrease. Combined, these phenomena result in lower M/WBE availability levels than would be observed in a race- and gender-neutral market area, since discrimination depresses business owner earnings for minority and female entrepreneurs. Business owner earnings, however, are often directly related to whether an owner has the capital to reinvest (firm size), how long a firm survives (firm age), and how much money a firm takes in (individual firm revenues). These observations illustrate why employment size, years in business, and individual firm revenues are especially inappropriate factors to consider when attempting to determine if discrimination has diminished opportunities for M/WBEs.⁸⁵

⁸⁵ For more on this topic, see “Understanding Capacity,” in Chapter III, section B.5, *supra*.

Table 4.8. Annual Business Owner Earnings Regressions, All Industries, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.418 (38.87)	-0.415 (37.04)	-0.418 (38.87)
Hispanic	-0.234 (25.46)	-0.237 (25.44)	-0.234 (25.46)
Asian	-0.081 (6.18)	-0.086 (6.40)	-0.081 (6.18)
Native American	-0.438 (14.64)	-0.436 (14.48)	-0.438 (14.64)
Two or more races	-0.371 (21.31)	-0.370 (20.87)	-0.371 (21.31)
Nonminority Female	-0.391 (71.56)	-0.390 (70.44)	-0.391 (71.56)
Age	0.185 (102.23)	0.185 (102.23)	0.185 (102.23)
Age ²	-0.002 (88.88)	-0.002 (88.89)	-0.002 (88.88)
MDMA	0.278 (7.28)	0.271 (6.25)	0.278 (7.28)
MDMA*African American		-0.066 (1.29)	n/a
MDMA*Hispanic		0.113 (1.81)	n/a
MDMA*Asian		0.098 (1.53)	n/a
MDMA*Native American		-0.185 (0.59)	n/a
MDMA*Two or more races		-0.041 (0.36)	n/a
MDMA*Nonminority Female		-0.025 (0.73)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	407,509	407,509	407,509
Adj. R ²	.1414	.1414	.1414

Source: NERA calculations from the 2010-2014 ACS Public Use Microdata Sample.

Notes: (1) See above, section B.4.(a)-(b) for a description of specifications 1 through 3; (2) Universe is all persons in the private sector with positive business earnings between the ages of 16 and 64; observations with imputed values to the dependent variable and all independent variables are excluded; (3) Reported number is the percentage difference in annual business earnings between a given group and nonminority men; (4) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at a 90 (95) (99) percent confidence level; (5) Geography is defined based on place of residence; (6) “MDMA” is shorthand for “State of Maryland Market Area,” which includes the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area; (7) “n/a” in Specification 3 means that the category was not included in the regression because it was not statistically significant in Specification 2, as described above in section B.4.b.

Table 4.9. Business Owner Earnings Regressions, Construction, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.419 (19.82)	-0.419 (19.30)	-0.419 (19.82)
Hispanic	-0.110 (6.87)	-0.114 (7.01)	-0.110 (6.87)
Asian	-0.189 (5.54)	-0.202 (5.80)	-0.189 (5.54)
Native American	-0.406 (7.76)	-0.403 (7.65)	-0.406 (7.76)
Two or more races	-0.322 (9.11)	-0.323 (9.04)	-0.322 (9.11)
Nonminority Female	-0.390 (27.27)	-0.389 (26.82)	-0.390 (27.27)
Age	0.180 (51.18)	0.180 (51.18)	0.180 (51.18)
Age ²	-0.002 (46.41)	-0.002 (46.42)	-0.002 (46.41)
MDMA	0.296 (4.02)	0.258 (3.29)	0.296 (4.02)
MDMA*African American		0.028 (0.23)	n/a
MDMA*Hispanic		0.131 (1.34)	n/a
MDMA*Asian		0.362 (1.77)	n/a
MDMA*Native American		-0.351 (0.69)	n/a
MDMA*Two or more races		0.076 (0.28)	n/a
MDMA*Nonminority Female		-0.042 (0.43)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	94,180	94,180	94,180
Adj. R ²	.0842	.0842	.0842

Source and Notes: See Table 4.8.

Table 4.10. Business Owner Earnings Regressions, AE-CRS, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.455 (17.03)	-0.448 (15.92)	-0.455 (17.03)
Hispanic	-0.141 (7.34)	-0.143 (7.34)	-0.141 (7.34)
Asian	-0.202 (5.57)	-0.206 (5.50)	-0.202 (5.57)
Native American	-0.342 (5.27)	-0.338 (5.18)	-0.342 (5.27)
Two or more races	-0.307 (7.31)	-0.308 (7.20)	-0.307 (7.31)
Nonminority Female	-0.381 (22.87)	-0.380 (22.35)	-0.381 (22.87)
Age	0.141 (32.48)	0.141 (32.48)	0.141 (32.48)
Age ²	-0.001 (29.29)	-0.001 (29.29)	-0.001 (29.29)
MDMA	0.308 (3.98)	0.303 (3.68)	0.308 (3.98)
MDMA*African American		-0.142 (1.20)	n/a
MDMA*Hispanic		0.074 (0.65)	n/a
MDMA*Asian		0.067 (0.42)	n/a
MDMA*Native American		-0.380 (0.62)	n/a
MDMA*Two or more races		0.052 (0.20)	n/a
MDMA*Nonminority Female		-0.011 (0.12)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	70,271	70,271	70,271
Adj. R ²	.0504	.0504	.0504

Source and Notes: See Table 4.8.

Table 4.11. Business Owner Earnings Regressions, Maintenance, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.404 (17.03)	-0.408 (16.68)	-0.404 (17.03)
Hispanic	-0.140 (7.88)	-0.143 (7.99)	-0.140 (7.88)
Asian	-0.151 (4.29)	-0.155 (4.31)	-0.151 (4.29)
Native American	-0.367 (6.29)	-0.363 (6.18)	-0.367 (6.29)
Two or more races	-0.284 (7.25)	-0.285 (7.19)	-0.284 (7.25)
Nonminority Female	-0.383 (23.98)	-0.382 (23.65)	-0.383 (23.98)
Age	0.140 (35.15)	0.140 (35.15)	0.140 (35.15)
Age ²	-0.001 (31.93)	-0.001 (31.92)	-0.001 (31.93)
MDMA	0.307 (3.91)	0.275 (3.29)	0.307 (3.91)
MDMA*African American		0.118 (0.92)	n/a
MDMA*Hispanic		0.154 (1.34)	n/a
MDMA*Asian		0.108 (0.58)	n/a
MDMA*Native American		-0.436 (0.82)	n/a
MDMA*Two or more races		0.077 (0.28)	n/a
MDMA*Nonminority Female		-0.029 (0.29)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	85,358	85,358	85,358
Adj. R ²	.0648	.0648	.0648

Source and Notes: See Table 4.8.

Table 4.12. Business Owner Earnings Regressions, IT, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.476 (20.04)	-0.471 (18.78)	-0.476 (20.04)
Hispanic	-0.132 (6.94)	-0.134 (6.94)	-0.132 (6.94)
Asian	-0.161 (5.39)	-0.162 (5.21)	-0.161 (5.39)
Native American	-0.339 (5.24)	-0.336 (5.16)	-0.339 (5.24)
Two or more races	-0.316 (8.27)	-0.322 (8.28)	-0.316 (8.27)
Nonminority Female	-0.271 (17.97)	-0.269 (17.43)	-0.271 (17.97)
Age	0.150 (36.47)	0.150 (36.47)	0.150 (36.47)
Age ²	-0.001 (32.03)	-0.001 (32.02)	-0.001 (32.03)
MDMA	0.252 (3.63)	0.263 (3.49)	0.252 (3.63)
MDMA*African American		-0.105 (1.00)	n/a
MDMA*Hispanic		0.069 (0.62)	n/a
MDMA*Asian		0.003 (0.03)	n/a
MDMA*Native American		-0.254 (0.40)	n/a
MDMA*Two or more races		0.216 (0.89)	n/a
MDMA*Nonminority Female		-0.061 (0.83)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	87,523	87,523	87,523
Adj. R ²	.0526	.0525	.0526

Source and Notes: See Table 4.8.

Table 4.13. Business Owner Earnings Regressions, Services, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.466 (28.88)	-0.467 (27.74)	-0.466 (28.88)
Hispanic	-0.152 (10.82)	-0.154 (10.82)	-0.152 (10.82)
Asian	-0.051 (2.40)	-0.055 (2.51)	-0.051 (2.40)
Native American	-0.399 (8.52)	-0.399 (8.46)	-0.399 (8.52)
Two or more races	-0.339 (12.23)	-0.347 (12.34)	-0.339 (12.23)
Nonminority Female	-0.370 (41.04)	-0.369 (40.32)	-0.370 (41.04)
Age	0.192 (66.00)	0.192 (65.99)	0.192 (66.00)
Age ²	-0.002 (57.31)	-0.002 (57.30)	-0.002 (57.31)
MDMA	0.236 (4.34)	0.220 (3.68)	0.236 (4.34)
MDMA*African American		0.013 (0.16)	n/a
MDMA*Hispanic		0.073 (0.85)	n/a
MDMA*Asian		0.066 (0.73)	n/a
MDMA*Native American		-0.047 (0.09)	n/a
MDMA*Two or more races		0.352 (1.74)	n/a
MDMA*Nonminority Female		-0.025 (0.46)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	166,082	166,082	166,082
Adj. R ²	.1078	.1077	.1078

Source and Notes: See Table 4.8.

Table 4.14. Business Owner Earnings Regressions, CSE, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.425 (22.93)	-0.420 (21.71)	-0.425 (22.93)
Hispanic	-0.157 (10.44)	-0.158 (10.39)	-0.157 (10.44)
Asian	0.052 (2.23)	0.050 (2.06)	0.052 (2.23)
Native American	-0.379 (8.23)	-0.377 (8.13)	-0.379 (8.23)
Two or more races	-0.316 (10.44)	-0.325 (10.61)	-0.316 (10.44)
Nonminority Female	-0.379 (36.93)	-0.380 (36.47)	-0.379 (36.93)
Age	0.169 (55.19)	0.169 (55.18)	0.169 (55.19)
Age ²	-0.002 (47.99)	-0.002 (47.98)	-0.002 (47.99)
MDMA	0.267 (4.46)	0.245 (3.78)	0.267 (4.46)
MDMA*African American		-0.083 (0.96)	n/a
MDMA*Hispanic		0.042 (0.43)	n/a
MDMA*Asian		0.043 (0.44)	n/a
MDMA*Native American		-0.298 (0.62)	n/a
MDMA*Two or more races		0.427 (1.87)	n/a
MDMA*Nonminority Female		0.047 (0.70)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (88 categories)	Yes	Yes	Yes
N	155,521	155,521	155,521
Adj. R ²	.1015	.1015	.1015

Source and Notes: See Table 4.8.

C. Race and Gender Disparities in Business Formation

As discussed in the two previous sections, discrimination that affects the wages and entrepreneurial earnings of minorities and women will ultimately affect the number of businesses formed by these groups as well. In this section, we turn to an analysis of race and gender disparities in business formation.⁸⁶ We compare self-employment rates by race and gender to determine whether minorities or women are as likely to become entrepreneurs as are similarly situated nonminority males. We find that in most cases they are not as likely to do so, and that minority and female business formation rates would be substantially and significantly higher if markets operated in a race- and gender-neutral manner.

Discrimination in the labor market, symptoms of which are evidenced in Section B.3 above, might cause wage and salary workers to turn to self-employment in hopes of encountering less discrimination from customers and suppliers than from employers and co-workers. Other things equal, and assuming minority and female workers did not believe that discrimination pervaded commercial markets as well, this would lead minority and female business formation rates to be higher than would otherwise be expected.

On the other hand, discrimination in the labor market prevents minorities and women from acquiring the very skills, experience, and positions that are often observed among those who leave the ranks of the wage and salary earners to start their own businesses. Many construction contracting concerns have been formed by individuals who were once employed as foremen or in related positions for other contractors, fewer by those who were employed instead as laborers. Moreover, discrimination in wages and salaries earned in labor markets inhibits the accumulation of capital necessary for business formation. Similarly, discrimination in commercial capital and credit markets, as well as asset and wealth distribution, prevents minorities and women from acquiring the financial credit and capital that are so often prerequisites to starting or expanding a business. Other things being equal, these phenomena would lead minority and female business formation rates to be lower than otherwise would be expected.

Further, discrimination by commercial customers and suppliers against M/WBEs, symptoms of which are evidenced in Section B.4 above and elsewhere, operates to increase input prices and lower output prices for M/WBEs. This discrimination leads to higher rates of failure for some minority- and women-owned firms, lower rates of profitability and growth for others, and prevents some minorities and women from ever starting businesses at all.⁸⁷ All of these phenomena, other things equal, would contribute directly to relatively lower observed rates of minority and female self-employment.

1. Methods and Data

To see if minorities or nonminority women are as likely to be business owners as are comparable nonminority males, we use a statistical technique known as Probit regression. Probit regression is used to determine the relationship between a categorical variable—one that can be characterized

⁸⁶ We use the phrases “business formation rates” and “self-employment rates” interchangeably in this Study.

⁸⁷ See also the materials cited at fn. 66 *supra*.

in terms of a “yes” or a “no” response as opposed to a continuous number—and a set of characteristics that are related to the outcome of the categorical variable. Probit regression produces estimates of the extent to which each characteristic is positively or negatively related to the likelihood that the categorical variable will be a yes or no. For example, Probit regression is used by statisticians to estimate the likelihood that an individual participates in the labor force, retires this year, or contracts a particular disease—these are all variables that can be categorized by a response of “yes” (for example, she is in the labor force) or “no” (for example, she is not in the labor force)—and the extent to which certain factors are positively or negatively related to the likelihood (for example, the more education she has, the more likely that she is in the labor force). Probit regression is one of several techniques that can be used to examine qualitative outcomes. Generally, other techniques such as Logit regression yield similar results.⁸⁸ In the present case, Probit regression is used to examine the relationship between the choice to own a business (yes or no) and the other demographic and socioeconomic characteristics in our basic model. The underlying data for this section is once again the 2010-2014 ACS PUMS.

2. Findings: Race and Gender Disparities in Business Formation

As a reference point, Tables 4.15 and 4.16 summarize rates of business ownership during 2010-2014 by race and gender. A notable feature of both tables is how much higher, on average, rates are for nonminority males than for all other groups. Table 4.15, for example, shows a 5.98 percentage point difference between the overall self-employment rate of African Americans and nonminority males in the MDMA ($11.55 - 5.57 = 5.98$). As shown in the rightmost column of that table, this 5.98 percentage point gap translates into an African American business formation rate in the MDMA that is 51.8 percent lower than the nonminority male business formation rate (*i.e.*, $5.57 - 11.55 \div 11.55 \approx -51.8\%$). For Hispanics, the business formation rate is 24.8 percent lower. For Asians, it is 6.6 percent lower. For Native Americans, it is 22.9 percent lower. For persons reporting two or more races, it is 36.5 percent lower. For minorities as a group, it is 34.9 percent lower. For nonminority women, it is 28.1 percent lower; and for M/WBEs overall, it is 32.1 percent lower.

Table 4.16 provides similar information for each of the State of Maryland’s major procurement categories: Construction, AE-CRS, Maintenance, IT, Services and CSE. Large deficits are observed in all six categories and for all groups.

A portion of the group differences documented in Tables 4.15 and 4.16 may be associated with differences in the distribution of individual productivity characteristics and preferences between minorities, women and nonminority males. It is well known, for example, that earnings tend to increase with labor market experience (*i.e.*, age). It is also true that the propensity toward self-employment increases with labor market experience.⁸⁹ Since most minority populations in the United States have a lower median age than the nonminority population, it is important to test whether the disparities in business ownership evidenced in Tables 4.15 and 4.16 can be fully explained by differences in the age distribution or in other factors such as education, geographic

⁸⁸ For a detailed discussion, see G.S. Maddala (1983). Probit analysis is performed here using the “dprobit” command in the statistical program STATA.

⁸⁹ Wainwright (2000), p. 86.

location or the industry preferences of minorities and nonminority women compared to nonminority males.

Table 4.15. Self-Employment Rates in 2010-2014 for Selected Race and Gender Groups: United States and the State of Maryland Market Area, All Procurement Categories

Race/Gender	U.S. (%)	State of Maryland Market Area (%)	Percent Difference from Nonminority Male in Column (2)
	(1)	(2)	(3)
African American	5.21	5.57	-51.8
Hispanic	8.45	8.69	-24.8
Asian	9.74	10.79	-6.6
Native American	8.04	8.91	-22.9
Two or more races	8.42	7.33	-36.5
Minority	7.73	7.52	-34.9
Nonminority Female	8.08	8.30	-28.1
M/WBE	7.90	7.84	-32.1
Nonminority Male	12.66	11.55	

Source: NERA calculations from the 2010-2014 ACS Public Use Microdata Sample.

Market-Based Disparities in Business Formation and Business Owner Earnings

Table 4.16. Self-Employment Rates in 2010-2014 for Selected Race and Gender Groups: United States and the State of Maryland Market Area, By Procurement Category

Race/Gender	U.S. (%)	State of Maryland Market Area (%)	Percent Difference from Nonminority Male in Column (2)
	(1)	(2)	(3)
<i>Construction</i>			
African American	12.91	9.58	-46.0
Hispanic	16.61	12.57	-29.1
Asian	14.91	17.38	-2.0
Native American	15.53	13.72	-22.7
Two or more races	17.65	14.40	-18.8
Minority	15.75	11.97	-32.5
Nonminority Female	14.40	10.69	-39.7
M/WBE	15.39	11.66	-34.3
Nonminority Male	21.44	17.74	
<i>AE-CRS</i>			
African American	17.21	12.50	-33.0
Hispanic	17.21	12.09	-35.2
Asian	16.70	13.22	-29.2
Native American	17.52	13.99	-25.0
Two or more races	20.87	15.37	-17.6
Minority	17.34	12.56	-32.7
Nonminority Female	17.81	13.07	-30.0
M/WBE	17.48	12.73	-31.8
Nonminority Male	25.57	18.66	
<i>Maintenance</i>			
African American	8.14	7.83	-48.2
Hispanic	13.51	11.64	-23.0
Asian	9.20	12.71	-15.9
Native American	12.68	14.25	-5.7
Two or more races	13.14	11.84	-21.6
Minority	11.64	10.10	-33.2
Nonminority Female	10.34	9.50	-37.1
M/WBE	11.24	9.95	-34.1
Nonminority Male	17.63	15.11	
<i>IT</i>			
African American	9.89	8.56	-43.2
Hispanic	14.25	11.17	-25.8
Asian	8.18	9.10	-39.6
Native American	14.92	10.50	-30.3
Two or more races	14.70	11.26	-25.2
Minority	12.11	9.70	-35.6
Nonminority Female	13.37	11.01	-26.9
M/WBE	12.55	10.13	-32.7
Nonminority Male	21.00	15.06	

Market-Based Disparities in Business Formation and Business Owner Earnings

Race/Gender	U.S. (%)	State of Maryland Market Area (%)	Percent Difference from Nonminority Male in Column (2)
<i>Services</i>			
African American	6.14	6.12	-54.9
Hispanic	10.16	8.54	-37.0
Asian	10.43	11.16	-17.7
Native American	9.77	6.21	-54.2
Two or more races	9.64	7.98	-41.2
Minority	9.11	7.96	-41.3
Nonminority Female	8.65	9.21	-32.1
M/WBE	8.90	8.41	-38.0
Nonminority Male	16.70	13.56	
<i>CSE</i>			
African American	4.83	5.15	-51.5
Hispanic	7.77	7.05	-33.6
Asian	8.12	8.60	-18.9
Native American	8.94	7.84	-26.1
Two or more races	7.42	7.02	-33.8
Minority	7.10	6.60	-37.8
Nonminority Female	6.11	6.32	-40.4
M/WBE	6.70	6.50	-38.7
Nonminority Male	12.42	10.61	

Source: NERA calculations from the 2010-2014 ACS Public Use Microdata Sample.

Note: Figures are rounded. Rounding was performed subsequent to any mathematical calculations.

To do this, the remainder of this section presents a series of regression analyses that test whether large, adverse and statistically significant race and gender disparities for minorities and women remain when such other factors are held constant. Table 4.17 focuses on the economy as a whole, Table 4.18 on Construction, Table 4.19 on AE-CRS, Table 4.20 on Maintenance, Table 4.21 on IT, Table 4.22 on Services, and Table 4.23 on CSE.⁹⁰ The numbers shown in each of these tables indicate the percentage point difference between the probability of business ownership for a given race/gender group compared to similarly situated nonminority males.

a. Specification 1 - the Basic Model⁹¹

Specification 1 in Table 4.17 shows large, adverse, and statistically significant business formation disparities for African Americans, Hispanics, Asians, Native Americans, persons reporting two or more races and nonminority women consistent with the presence of discrimination in these markets. Specification 1 in Tables 4.18 through 4.23 shows large, negative, and statistically significant business formation disparities for each of these groups in the Construction, AE-CRS, Maintenance, IT, Services, and CSE sectors, respectively.

⁹⁰ Procurement categories for Tables 4.18 through 4.23 are based on the top 95 percent of industries relevant to State of Maryland procurement, as described above in Tables 2.7 through 2.12.

⁹¹ See above, section C.2.a., for a detailed description of Specification 1.

b. Specifications 2 and 3 - the Full Model Including State of Maryland-Specific Interaction Terms⁹²

Several of the MDMA interaction terms included in Specification 2 were significant. The final results are shown in Specification 3 for Tables 4.17 through 4.23.

To summarize for the economy-wide results (Table 4.17):

- For African Americans, business formation rates are 2.4 percentage points lower than what would be expected in a race- and gender-neutral market area.⁹³
- For Hispanics, business formation rates are 1.4 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Asians, business formation rates are 0.1 percentage points higher than what would be expected in a race- and gender-neutral market area.
- For Native Americans, business formation rates are 2.8 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For persons reporting two or more races, business formation rates are 1.4 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For nonminority women, business formation rates are 1.2 percentage points lower than what would be expected in a race- and gender-neutral market area.

To summarize the results for Construction (Table 4.18):

- For African Americans, business formation rates are 8.1 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Hispanics, business formation rates are 4.7 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Asians, business formation rates are 3.3 percentage points higher than what would be expected in a race- and gender-neutral market area.
- For Native Americans, business formation rates are 6.7 percentage points lower than what would be expected in a race- and gender-neutral market area.

⁹² See above, section C.2.b., for a detailed description of Specifications 2 and 3.

⁹³ Recall that the net business formation rate is equal to the value direct coefficient (on the African American indicator variable in this case) plus the value of the statistically significant coefficient on the MDMA*African American interaction term. In this example, the 2.4 percent figure is the net result of the direct coefficient for African Americans, with a value of -3.7 percent, and the coefficient for African Americans interacted with the MDMA indicator, which is positive 1.3 percent.

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- For persons reporting two or more races, business formation rates are 2.2 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For nonminority women, business formation rates are 5.2 percentage points lower than what would be expected in a race- and gender-neutral market area.

To summarize the results for AE-CRS (Table 4.19):

- For African Americans, business formation rates are 8.4 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Hispanics, business formation rates are 5.2 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Asians, business formation rates are 7.1 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Native Americans, business formation rates are 8.6 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For persons reporting two or more races, business formation rates are 2.4 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For nonminority women, business formation rates are 6.2 percentage points lower than what would be expected in a race- and gender-neutral market area.

To summarize the results for Maintenance (Table 4.20):

- For African Americans, business formation rates are 4.5 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Hispanics, business formation rates are 3.2 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Asians, business formation rates are 1.3 percentage points higher than what would be expected in a race- and gender-neutral market area.
- For Native Americans, business formation rates are 4.9 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For persons reporting two or more races, business formation rates are 1.7 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For nonminority women, business formation rates are 4.0 percentage points lower than what would be expected in a race- and gender-neutral market area.

To summarize the results for IT (Table 4.21):

- For African Americans, business formation rates are 7.0 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Hispanics, business formation rates are 2.6 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Asians, business formation rates are 1.8 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Native Americans, business formation rates are 6.0 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For persons reporting two or more races, business formation rates are 1.9 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For nonminority women, business formation rates are 1.8 percentage points lower than what would be expected in a race- and gender-neutral market area.

To summarize the results for Services (Table 4.22):

- For African Americans, business formation rates are 3.6 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Hispanics, business formation rates are 1.9 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Asians, business formation rates are 1.0 percentage points higher than what would be expected in a race- and gender-neutral market area.
- For Native Americans, business formation rates are 3.7 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For persons reporting two or more races, business formation rates are 1.8 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For nonminority women, business formation rates are 0.7 percentage points lower than what would be expected in a race- and gender-neutral market area.

To summarize the results for CSE (Table 4.23):

- For African Americans, business formation rates are 2.1 percentage points lower than what would be expected in a race- and gender-neutral market area.

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- For Hispanics, business formation rates are 1.1 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For Asians, business formation rates are 0.6 percentage points higher than what would be expected in a race- and gender-neutral market area.
- For Native Americans, business formation rates are 2.3 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For persons reporting two or more races, business formation rates are 1.0 percentage points lower than what would be expected in a race- and gender-neutral market area.
- For nonminority women, business formation rates are 1.0 percentage points lower than what would be expected in a race- and gender-neutral market area.

Table 4.17. Business Formation Regressions, All Industries, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.037 (95.00)	-0.037 (92.65)	-0.037 (92.64)
Hispanic	-0.029 (87.55)	-0.029 (87.59)	-0.029 (87.57)
Asian	-0.013 (28.54)	-0.014 (28.99)	-0.014 (28.97)
Native American	-0.028 (23.81)	-0.029 (23.85)	-0.028 (23.9)
Two or more races	-0.014 (17.73)	-0.014 (17.64)	-0.014 (17.71)
Nonminority Female	-0.026 (101.24)	-0.026 (101.38)	-0.026 (101.37)
Age	0.008 (124.51)	0.008 (124.48)	0.008 (124.48)
Age ²	-0.000 (82.14)	-0.000 (82.12)	-0.000 (82.12)
MDMA	-0.006 (4.91)	-0.013 (9.49)	-0.012 (9.36)
MDMA*African American		0.013 (6.07)	0.013 (5.95)
MDMA*Hispanic		0.016 (6.23)	0.015 (6.12)
MDMA*Asian		0.015 (6.27)	0.015 (6.16)
MDMA*Native American		0.014 (0.94)	n/a
MDMA*Two or more races		0.007 (1.37)	n/a
MDMA*Nonminority Female		0.015 (9.59)	0.014 (9.46)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	4,366,874	4,366,874	4,366,874
Pseudo R ²	.2104	.2105	.2105

Source: NERA calculations from the 2010-2014 ACS Public Use Microdata Sample.

Notes: (1) See above, section C.2.(a)-(b) for a description of specifications 1 through 3; (2) Universe is all private sector labor force participants between the ages of 16 and 64; observations with imputed values to the dependent variable and all independent variables are excluded; (3) Reported number represents the percentage point probability difference in business ownership rates between a given group and nonminority men, evaluated at the mean business ownership rate for the estimation sample; (4) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at a 90 (95) (99) percent confidence level; (5) Geography is defined based on place of residence; (6) “MDMA” is shorthand for “State of Maryland Market Area,” which includes the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area; (7) “n/a” in Specification 3 indicates that the category was not included in the regression because it was not statistically significant in Specification 2, as described above in section C.2.b.

Table 4.18. Business Formation Regressions, Construction, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.081 (39.65)	-0.081 (38.04)	-0.081 (39.62)
Hispanic	-0.047 (30.98)	-0.048 (30.69)	-0.047 (31.03)
Asian	-0.036 (11.05)	-0.039 (11.68)	-0.039 (11.70)
Native American	-0.067 (12.23)	-0.067 (12.20)	-0.067 (12.23)
Two or more races	-0.022 (5.41)	-0.022 (5.30)	-0.022 (5.44)
Nonminority Female	-0.052 (35.66)	-0.052 (34.75)	-0.052 (35.66)
Age	0.016 (51.21)	0.016 (51.20)	0.016 (51.21)
Age ²	-0.000 (33.01)	-0.000 (33.01)	-0.000 (33.01)
MDMA	-0.034 (6.08)	-0.035 (5.82)	-0.037 (6.56)
MDMA*African American		-0.012 (1.23)	n/a
MDMA*Hispanic		0.004 (0.43)	n/a
MDMA*Asian		0.069 (4.09)	0.072 (4.30)
MDMA*Native American		0.031 (0.54)	n/a
MDMA*Two or more races		-0.009 (0.36)	n/a
MDMA*Nonminority Female		-0.014 (1.72)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	617,717	617,717	617,717
Pseudo R ²	.0970	.0970	.0970

Source and Notes: See Table 4.17.

Table 4.19. Business Formation Regressions, AE-CRS, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.085 (25.38)	-0.085 (24.11)	-0.084 (25.31)
Hispanic	-0.052 (23.67)	-0.053 (23.60)	-0.052 (23.67)
Asian	-0.071 (17.88)	-0.072 (17.62)	-0.071 (17.84)
Native American	-0.086 (11.36)	-0.086 (11.36)	-0.086 (11.36)
Two or more races	-0.024 (4.21)	-0.024 (4.16)	-0.024 (4.21)
Nonminority Female	-0.078 (39.41)	-0.079 (38.90)	-0.079 (38.85)
Age	0.019 (43.19)	0.019 (43.19)	0.019 (43.20)
Age ²	-0.000 (25.70)	-0.000 (25.69)	-0.000 (25.70)
MDMA	-0.062 (9.22)	-0.068 (9.60)	-0.064 (9.41)
MDMA*African American		0.005 (0.39)	n/a
MDMA*Hispanic		0.018 (1.52)	n/a
MDMA*Asian		0.030 (1.82)	n/a
MDMA*Native American		0.046 (0.61)	n/a
MDMA*Two or more races		0.006 (0.20)	n/a
MDMA*Nonminority Female		0.022 (2.31)	0.017 (1.90)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	400,424	400,424	400,424
Pseudo R ²	.0744	.0744	.0744

Source and Notes: See Table 4.17.

Table 4.20. Business Formation Regressions, Maintenance, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.060 (37.73)	-0.061 (36.91)	-0.061 (36.89)
Hispanic	-0.032 (25.53)	-0.032 (25.39)	-0.032 (25.57)
Asian	-0.023 (9.49)	-0.024 (9.90)	-0.024 (9.87)
Native American	-0.049 (11.68)	-0.050 (11.77)	-0.049 (11.69)
Two or more races	-0.017 (5.18)	-0.017 (5.19)	-0.017 (5.20)
Nonminority Female	-0.040 (35.54)	-0.040 (35.14)	-0.040 (35.53)
Age	0.013 (52.40)	0.013 (52.39)	0.013 (52.40)
Age ²	-0.000 (35.46)	-0.000 (35.45)	-0.000 (35.46)
MDMA	-0.019 (4.26)	-0.023 (4.95)	-0.021 (4.74)
MDMA*African American		0.019 (2.38)	0.016 (2.13)
MDMA*Hispanic		0.006 (0.87)	n/a
MDMA*Asian		0.040 (3.11)	0.037 (2.94)
MDMA*Native American		0.064 (1.38)	n/a
MDMA*Two or more races		0.008 (0.43)	n/a
MDMA*Nonminority Female		0.007 (1.11)	n/a
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	696,914	696,914	696,914
Pseudo R ²	.1281	.1281	.1281

Source and Notes: See Table 4.17.

Table 4.21. Business Formation Regressions, IT, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.070 (34.74)	-0.071 (33.34)	-0.070 (34.55)
Hispanic	-0.041 (26.66)	-0.041 (26.71)	-0.041 (26.66)
Asian	-0.065 (31.38)	-0.067 (31.49)	-0.067 (31.46)
Native American	-0.059 (11.18)	-0.060 (11.18)	-0.060 (11.20)
Two or more races	-0.019 (5.26)	-0.020 (5.32)	-0.019 (5.28)
Nonminority Female	-0.033 (25.92)	-0.033 (25.88)	-0.033 (25.83)
Age	0.014 (45.97)	0.014 (45.95)	0.014 (45.96)
Age ²	-0.000 (26.39)	-0.000 (26.37)	-0.000 (26.37)
MDMA	-0.046 (10.59)	-0.054 (11.66)	-0.052 (11.52)
MDMA*African American		0.014 (1.68)	n/a
MDMA*Hispanic		0.018 (2.05)	0.015 (1.81)
MDMA*Asian		0.051 (5.31)	0.049 (5.12)
MDMA*Native American		0.021 (0.38)	n/a
MDMA*Two or more races		0.014 (0.79)	n/a
MDMA*Nonminority Female		0.017 (2.78)	0.015 (2.46)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	622,458	622,458	622,458
Pseudo R ²	.1102	.1103	.1103

Source and Notes: See Table 4.17.

Table 4.22. Business Formation Regressions, Services, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.051 (62.79)	-0.052 (61.02)	-0.052 (61.01)
Hispanic	-0.033 (47.13)	-0.033 (47.18)	-0.033 (47.17)
Asian	-0.016 (16.04)	-0.017 (16.79)	-0.017 (16.77)
Native American	-0.037 (14.40)	-0.037 (14.39)	-0.037 (14.47)
Two or more races	-0.018 (10.96)	-0.019 (11.05)	-0.018 (10.97)
Nonminority Female	-0.031 (58.48)	-0.032 (59.03)	-0.032 (59.01)
Age	0.011 (80.45)	0.011 (80.45)	0.011 (80.45)
Age ²	-0.000 (50.76)	-0.000 (50.75)	-0.000 (50.75)
MDMA	-0.019 (8.36)	-0.028 (11.42)	-0.027 (11.33)
MDMA*African American		0.016 (3.89)	0.016 (3.78)
MDMA*Hispanic		0.015 (3.33)	0.014 (3.23)
MDMA*Asian		0.027 (5.82)	0.027 (5.72)
MDMA*Native American		0.003 (0.12)	n/a
MDMA*Two or more races		0.015 (1.53)	n/a
MDMA*Nonminority Female		0.026 (8.44)	0.025 (8.32)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	1,557,982	1,557,982	1,557,982
Pseudo R ²	.1607	.1608	.1608

Source and Notes: See Table 4.17.

Table 4.23. Business Formation Regressions, CSE, 2010-2014

Independent Variables	Specification		
	(1)	(2)	(3)
African American	-0.032 (48.74)	-0.033 (47.58)	-0.033 (47.57)
Hispanic	-0.021 (39.80)	-0.021 (39.88)	-0.021 (39.86)
Asian	-0.007 (9.26)	-0.008 (9.83)	-0.008 (9.81)
Native American	-0.023 (12.10)	-0.023 (12.19)	-0.023 (12.14)
Two or more races	-0.010 (8.06)	-0.011 (8.16)	-0.010 (8.06)
Nonminority Female	-0.021 (49.61)	-0.021 (49.58)	-0.021 (49.57)
Age	0.009 (84.20)	0.009 (84.19)	0.009 (84.19)
Age ²	-0.000 (55.38)	-0.000 (55.36)	-0.000 (55.36)
MDMA	-0.016 (9.36)	-0.020 (11.01)	-0.020 (10.90)
MDMA*African American		0.012 (3.50)	0.012 (3.40)
MDMA*Hispanic		0.011 (2.99)	0.010 (2.89)
MDMA*Asian		0.014 (3.99)	0.014 (3.89)
MDMA*Native American		0.027 (1.17)	n/a
MDMA*Two or more races		0.010 (1.32)	n/a
MDMA*Nonminority Female		0.011 (4.47)	0.011 (4.34)
Education (16 categories)	Yes	Yes	Yes
Geography (51 categories)	Yes	Yes	Yes
Industry (25 categories)	Yes	Yes	Yes
N	1,835,894	1,835,894	1,835,894
Pseudo R ²	.1945	.1945	.1945

Source and Notes: See Table 4.17.

c. Conclusions

This section has demonstrated that minorities and women in general are substantially and statistically significantly less likely to own their own businesses than would be expected based upon their observable demographic characteristics including age, education, geographic location, industry and trends over time. Moreover, as demonstrated in previous sections, these groups also suffer substantial and significant earnings disadvantages relative to comparable nonminority males whether they work as wage and salary employees or as entrepreneurs.⁹⁴ These findings are consistent with results that would be observed in a discriminatory market area.

D. Expected Business Formation Rates—Implications for Current M/WBE Availability⁹⁵

In Table 4.24, the Probit regression results for the State of Maryland Market Area from Tables 4.17 through 4.23, for the overall economy, Construction, AE-CRS, Maintenance, IT, Services, and CSE, respectively, are combined with weighted average self-employment rates by race and gender from the 2010-2014 ACS PUMS (Tables 4.15 and 4.16) to determine the disparity between baseline availability and expected availability in a race- and gender-neutral market area. These figures appear in column (3) of each panel in Table 4.24.

In Table 4.24, the business formation rate in the MDMA for African Americans in AE-CRS, for example, is 12.50 percent. According to the regression specification underlying Table 4.18, however, that rate would be 20.90 percent, or 67.2 percent higher, in a race- and gender-neutral market area. Put differently, the disparity ratio of the actual business formation rate to the expected business formation rate for African Americans in AE-CRS in the MDMA is 59.81. Disparity indices are adverse and statistically significant in AE-CRS for African Americans, Asians, Hispanics, Native Americans, persons reporting two or more races, minorities as a group, nonminority women, and minorities and women combined.⁹⁶

In Construction, the largest disparities observed are for African Americans (54.19), followed in descending order by M/WBEs as a group (67.17), Native Americans (67.19), nonminority women (67.28), minorities as a group (67.74), Hispanics (72.79), and persons reporting two or more races (86.75).

In AE-CRS, the largest disparities observed are for African Americans (59.81), followed in descending order by Native Americans (61.93), M/WBEs as a group (63.55), Asians (65.06), minorities as a group (66.60), nonminority women (67.83), Hispanics (69.92), and persons reporting two or more races (86.49).

⁹⁴ Although business formation disparities were not observed for Asians in the State of Maryland Market Area, wage and salary earnings disparities and business owner earnings disparities for Asians *were* observed.

⁹⁵ In addition to quantifying how discrimination may have depressed current measured levels of M/WBE availability, this exercise also addresses the requirements of 49 C.F.R. 26.45 (“Step 2”) for the United States Department of Transportation Disadvantaged Business Enterprise Program.

⁹⁶ Results are adverse because they are less than 100, and they are statistically significant because the corresponding coefficient(s) from the Probit regression are statistically significant.

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In Maintenance, the largest disparities observed are for African Americans (56.21), followed in descending order by Asians (67.57), M/WBEs as a group (70.32), nonminority women (70.37), minorities as a group (71.63), Native Americans (74.41), Hispanics (78.44), and persons reporting two or more races (87.44).

In IT, the largest disparities observed are for African Americans (55.01), followed in descending order by Native Americans (63.64), minorities as a group (70.80), M/WBEs as a group (75.43), Hispanics (81.12), Asians (83.49), persons reporting two or more races (85.56), and nonminority women (85.95).

In Services, the largest disparities observed are for Native Americans (62.66), followed in descending order by African Americans (62.96), minorities as a group (78.35), M/WBEs as a group (81.57), persons reporting two or more races (81.60), Hispanics (81.80), and nonminority women (92.94).

In CSE, the largest disparities observed are for African Americans (71.03), followed in descending order by Native Americans (77.32), M/WBEs as a group (83.33), minorities as a group (85.71), nonminority women (86.34), Hispanics (86.50), and persons reporting two or more races (87.53).

In the economy as a whole, the largest disparities observed are for African Americans (69.89), followed in descending order by Native Americans (76.09), M/WBEs as a group (80.91), minorities as a group (81.21), persons reporting two or more races (83.96), Hispanics (86.12), and nonminority women (87.37).

Given the disparities observed in the economy for the presumptively disadvantaged groups in the State MBE statute, goal-setters might consider adjusting baseline estimates of M/WBE availability upward to partly account for the depressing effects of discrimination on current measured levels of availability. The business formation rate disparities documented in Table 4.24 can be combined with the estimates of current M/WBE availability documented in Table 3.15 and elsewhere to provide estimates of expected availability. Such estimates appear in Table 6.6, below. Expected M/WBE availability exceeds actual current M/WBE availability overall and in each major procurement category.

Market-Based Disparities in Business Formation and Business Owner Earnings

Table 4.24. Actual and Potential Business Formation Rates in the State of Maryland Market Area

Race/Gender	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Ratio
<i>All Industries</i>	(1)	(2)	(3)
African American	5.57	7.97	69.89
Hispanic	8.69	10.09	86.12
Asian	10.79	10.69	
Native American	8.91	11.71	76.09
Two or more races	7.33	8.73	83.96
Minority	7.52	9.26	81.21
Nonminority Female	8.30	9.50	87.37
M/WBE	7.84	9.69	80.91
<i>Construction</i>	(1)	(2)	(3)
African American	9.58	17.68	54.19
Hispanic	12.57	17.27	72.79
Asian	17.38	14.08	
Native American	13.72	20.42	67.19
Two or more races	14.40	16.60	86.75
Minority	11.97	17.67	67.74
Nonminority Female	10.69	15.89	67.28
M/WBE	11.66	17.36	67.17
<i>AE-CRS</i>	(1)	(2)	(3)
African American	12.50	20.90	59.81
Hispanic	12.09	17.29	69.92
Asian	13.22	20.32	65.06
Native American	13.99	22.59	61.93
Two or more races	15.37	17.77	86.49
Minority	12.56	18.86	66.60
Nonminority Female	13.07	19.27	67.83
M/WBE	12.73	20.03	63.55
<i>Maintenance</i>	(1)	(2)	(3)
African American	7.83	13.93	56.21
Hispanic	11.64	14.84	78.44
Asian	12.71	18.81	67.57
Native American	14.25	19.15	74.41
Two or more races	11.84	13.54	87.44
Minority	10.10	14.10	71.63
Nonminority Female	9.50	13.50	70.37
M/WBE	9.95	14.15	70.32

Market-Based Disparities in Business Formation and Business Owner Earnings

Race/Gender	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Ratio
<i>IT</i>	(1)	(2)	(3)
African American	8.56	15.56	55.01
Hispanic	11.17	13.77	81.12
Asian	9.10	10.90	83.49
Native American	10.50	16.50	63.64
Two or more races	11.26	13.16	85.56
Minority	9.70	13.70	70.80
Nonminority Female	11.01	12.81	85.95
M/WBE	10.13	13.43	75.43
<i>Services</i>	(1)	(2)	(3)
African American	6.12	9.72	62.96
Hispanic	8.54	10.44	81.80
Asian	11.16	10.16	
Native American	6.21	9.91	62.66
Two or more races	7.98	9.78	81.60
Minority	7.96	10.16	78.35
Nonminority Female	9.21	9.91	92.94
M/WBE	8.41	10.31	81.57
<i>CSE</i>	(1)	(2)	(3)
African American	5.15	7.25	71.03
Hispanic	7.05	8.15	86.50
Asian	8.60	8.00	
Native American	7.84	10.14	77.32
Two or more races	7.02	8.02	87.53
Minority	6.60	7.70	85.71
Nonminority Female	6.32	7.32	86.34
M/WBE	6.50	7.80	83.33

Source: 2010-2014 ACS Public Use Microdata Sample. See Tables 4.15 through 4.22.

Notes: (A) Figures are rounded. Rounding was performed subsequent to any mathematical calculations. (B) Figures in column (1) are average self-employment rates weighted using ACS population-based person weights, as also shown in Tables 4.15 and 4.16. (C) Figures in column (2) are derived by combining the figure in column (1) with the corresponding result from the regression reported in Table 4.17, 4.18, 4.19, 4.20, 4.21 4.22, or 4.23, respectively. Minority and M/WBE figures were derived from similar regression analyses, not reported separately. (D) Column (3) is the figure in column (1) divided by the figure in column (2), with the result multiplied by 100. (E) An empty cell in the Disparity Ratio column indicates that no adverse disparity was observed for that category.

E. Evidence from the Survey of Business Owners

As a final check on the statistical findings in this chapter, we present evidence from a Census Bureau data collection effort dedicated to M/WBEs. The Census Bureau's *Survey of Business Owners and Self-Employed Persons* (SBO), formerly known as the *Survey of Minority- and Women-Owned Business Enterprises* (SMWOBE), collects and disseminates data on the number, sales, employment, and payrolls of businesses owned by women and members of racial and ethnic minority groups. This survey has been conducted every five years since 1972 as part of the *Economic Census* program. Data from the 2012 SBO, the most recent available, were released in December 2015.

The SBO estimates are created by matching data collected from income tax returns by the Internal Revenue Service with Social Security Administration data on race and ethnicity, and supplementing this information using statistical sampling methods. The unique field for conducting this matching is the Social Security Number (SSN) or the Employer Identification Number (EIN), as reported on the tax return.

The SBO covers women and five groups of minorities: (1) African Americans, (2) Hispanics, (3) Asians, (4) Native Hawaiians and Pacific Islanders, and (5) American Indians and Alaskan Natives. Comparative information for nonminority male-owned firms is also included.⁹⁷

The SBO provides aggregate estimates of the number of minority-owned and women-owned firms and their annual sales and receipts. The SBO distinguishes employer firms (*i.e.*, firms with one or more paid employees) from nonemployer firms, and for the former also includes estimates of aggregate annual employment and payroll.

Compared to the ACS PUMS, the SBO is more limited in the scope of industrial and geographic detail it provides. Nonetheless, it contains a wealth of information on the character of minority and female business enterprise in the U.S as a whole as well as in the State of Maryland Market Area ("MDMA").⁹⁸ In the remainder of this section, we present SBO statistics for the United States as a whole and in the MDMA and calculate disparity indices from them. We observe results in the SBO regarding disparities that are consistent with our findings above using the ACS PUMS.

Tables 4.25 and 4.26 contain data for all industries combined. Table 4.25 is for the U.S. as a whole, Table 4.26 is for the MDMA. Panel A in these two tables summarizes the SBO results for each race and/or gender grouping. For example, Panel A of Table 4.25 shows a total of 27.18 million firms in the U.S. in 2012 (column 1) with overall sales and receipts of \$11.964 trillion (column 2). Of these 27.18 million firms, 5.14 million had one or more employees (column 3)

⁹⁷ In the ACS PUMS data, discussed above, the unit of analysis is the business owner, or self-employed person. In the SBO data, the unit of analysis is the business rather than the business owner. Furthermore, unlike most other business statistics, including the other components of the *Economic Census*, the unit of analysis in the SBO is the firm, rather than the establishment.

⁹⁸ We performed a custom tabulation of SBO data in order to examine the State of Maryland Market Area, which is defined as the States of Maryland and Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria DC-VA-MD-WV Metropolitan Statistical Area.

and these 5.14 million firms had overall sales and receipts of \$10.965 trillion (column 4). Column (5) shows a total of 56.059 million employees on the payroll of these 5.14 million firms and a total annual payroll expense of \$2.096 trillion (column 6).

The remaining rows in Panel A provide comparable statistics for nonminority male-owned, women-owned, and minority-owned firms. For example, Table 4.25 shows that there were 2.6 million African American-owned firms counted in the SBO, and that these 2.6 million firms registered \$150.2 billion in sales and receipts. It also shows that 109,137 of these African American-owned firms had one or more employees, and that they employed a total of 975,052 workers with an annual payroll total of \$27.69 billion.

Panel A of Table 4.26 provides comparable information for the MDMA. The SBO counted 918,009 firms in the MDMA, of which 360,045 were female-owned; 178,828 were African American-owned; 77,478 were Hispanic-owned; 91,812 were Asian-owned; 5,924 were Native American-owned; and 952 were Native Hawaiian- or Pacific Islander-owned.

Panel B in each table converts the figures in Panel A to percentage distributions within each column. For example, Column (1) in Panel B of Table 4.26 shows that African American-owned firms were 19.46 percent of all firms in the MDMA and female-owned firms were 39.18 percent. Additionally, 8.43 percent of firms were Hispanic-owned, 9.99 percent were Asian-owned, 0.64 percent were Native American-owned, and 0.10 percent were Native Hawaiian- or Pacific Islander-owned.

Column (2) in Panel B provides the same percentage distribution for overall sales and receipts. Table 4.26, for example, shows that although African American-owned firms were 19.46 percent of all firms in the MDMA, they accounted for only 4.05 percent of all sales and receipts. Although female-owned firms accounted for 39.18 percent, they earned only 13.88 percent of all sales and receipts. For Hispanic-owned firms, the figures are 8.43 percent and 3.03 percent, respectively. For Asian-owned firms, they are 9.99 percent and 8.29 percent, respectively. For Native American-owned firms, they are 0.64 percent and 0.19 percent, respectively; and for Native Hawaiian- or Pacific Islander-owned firms, they are 0.10 percent and 0.02 percent, respectively. In contrast, the figures for nonminority male-owned firms are 26.98 percent and 49.71 percent, respectively.

Similar results are obtained when the survey results are restricted to firms with one or more paid employees. Column (3) in Table 4.26, for example, shows that although nonminority male-owned firms were 38.34 percent of all employer firms, they accounted for 51.01 percent of all employer firm sales and receipts. African American-owned firms, in contrast, were 5.71 percent of all employer firms, but they accounted for only 3.43 percent of all employer firm sales and receipts. Hispanic-owned firms were 4.16 percent of all employer firms, but they accounted for only 2.69 percent of all employer firm sales and receipts. Asian-owned firms were 14.48 percent of all employer firms, but they accounted for only 8.20 percent of all employer firm sales and receipts. Native American-owned firms were 0.32 percent of all employer firms but accounted for only 0.17 percent of all employer firm sales and receipts. Native Hawaiian- and Pacific Islander-owned firms were 0.05 percent of all employer firms but accounted for 0.02 percent of all employer firm sales and receipts. Finally, women-owned firms accounted for 22.41 percent of all employer firms, but earned only 12.76 percent of all employer firm sales and receipts.

Market-Based Disparities in Business Formation and Business Owner Earnings

Table 4.25. Disparity Ratios from the 2012 Survey of Business Owners, United States, All Industries

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
All Firms	27,179,380	11,964,077,871	5,136,203	10,964,584,749	56,058,563	2,096,442,212
Nonminority Male	12,280,591	8,787,915,377	2,933,198	8,221,010,815	37,750,711	1,531,662,394
Female	9,878,397	1,419,834,295	1,035,655	1,190,586,438	8,431,614	263,720,252
African American	2,584,403	150,203,163	109,137	103,451,510	975,052	27,689,957
Hispanic	3,305,873	473,635,944	287,501	379,994,999	2,329,553	70,855,704
Asian	1,917,902	699,492,422	481,026	627,532,399	3,572,577	110,543,615
Native Hawaiian/Pac. Islander	54,749	8,136,445	4,706	6,469,957	39,001	1,430,591
Am. Indian & Alaska Native	272,919	38,838,125	26,179	31,654,165	208,178	6,994,509
Panel B. Column Percentages						
All Firms	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Nonminority Male	45.18%	73.45%	57.11%	74.98%	67.34%	73.06%
Female	36.35%	11.87%	20.16%	10.86%	15.04%	12.58%
African American	9.51%	1.26%	2.12%	0.94%	1.74%	1.32%
Hispanic	12.16%	3.96%	5.60%	3.47%	4.16%	3.38%
Asian	7.06%	5.85%	9.37%	5.72%	6.37%	5.27%
Native Hawaiian/Pac. Islander	0.20%	0.07%	0.09%	0.06%	0.07%	0.07%
Am. Indian & Alaska Native	1.00%	0.32%	0.51%	0.29%	0.37%	0.33%
Panel C. Disparity Ratios						
		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Nonminority Male		162.56		131.29	117.92	127.93
Female		32.65		53.85	74.59	62.39
African American		13.20		44.40	81.86	62.16
Hispanic		32.55		61.91	74.24	60.38
Asian		82.85		61.11	68.05	56.30
Native Hawaiian/Pac. Islander		33.76		64.40	75.93	74.48
Am. Indian & Alaska Native		32.33		56.64	72.86	65.46

Source: NERA calculations using 2012 SBO. Notes: (A) Figures are rounded. Rounding was performed subsequent to any mathematical calculations. (B) Excludes publicly-owned, foreign-owned, and not-for-profit firms. (C) "n/a" indicates that data were not disclosed due to confidentiality or other publication restrictions.

Disparities between the fraction of firms that are minority- or women-owned and their fraction of sales and receipts in the MDMA are observed for African Americans, Hispanics, Asians, Native Americans, Native Hawaiians and Pacific Islanders and women, both for employer firms and nonemployer firms. The disparity indices are presented in Panel C of each table. Disparity indices of approximately 80 percent or less are consistent with business discrimination (0 percent being complete disparity and 100 percent being full parity).⁹⁹ In the MDMA (Table 4.26), the sales and receipts disparity indices (in columns 2 and 4) fall at or below the 80 percent threshold in 11 out of 12 instances for minorities and women. All of the disparity indices in this table are statistically significant within a 95 percent confidence interval.¹⁰⁰

⁹⁹ See Appendix A below, "Constitutional significance or substantive significance."

¹⁰⁰ This is true for each table in Section E.

Table 4.26. Disparity Ratios from the 2012 Survey of Business Owners, State of Maryland Market Area, All Industries

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
All Firms	918,909	397,013,822	172,217	362,949,202	1,988,787	88,522,803
Nonminority Male	247,907	197,366,518	66,033	185,135,698	880,015	40,235,729
Female	360,045	55,124,577	38,594	46,310,707	347,590	13,807,496
African American	178,828	16,059,898	9,834	12,434,774	102,995	3,971,763
Hispanic	77,478	12,042,158	7,169	9,753,652	71,276	2,735,040
Asian	91,812	32,925,222	24,945	29,753,839	197,654	7,941,162
Native Hawaiian/Pac. Islander	952	70,098	89	57,807	657	26,348
Am. Indian & Alaska Native	5,924	755,731	551	605,023	4,764	188,921
Panel B. Column Percentages						
All Firms	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Nonminority Male	26.98%	49.71%	38.34%	51.01%	44.25%	45.45%
Female	39.18%	13.88%	22.41%	12.76%	17.48%	15.60%
African American	19.46%	4.05%	5.71%	3.43%	5.18%	4.49%
Hispanic	8.43%	3.03%	4.16%	2.69%	3.58%	3.09%
Asian	9.99%	8.29%	14.48%	8.20%	9.94%	8.97%
Native Hawaiian/Pac. Islander	0.10%	0.02%	0.05%	0.02%	0.03%	0.03%
Am. Indian & Alaska Native	0.64%	0.19%	0.32%	0.17%	0.24%	0.21%
Panel C. Disparity Ratios		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Nonminority Male		184.27		133.03	115.40	118.54
Female		35.44		56.94	77.99	69.60
African American		20.79		60.00	90.69	78.57
Hispanic		35.97		64.56	86.09	74.22
Asian		83.00		56.60	68.61	61.93
Native Hawaiian/Pac. Islander		17.04		30.82	63.92	57.59
Am. Indian & Alaska Native		29.53		52.10	74.87	66.70

Source and Notes: See Table 4.25.

Table 4.27 shows comparable SBO data for the Construction and Construction-related Professional Services (“AE-CRS”) sector in the U.S. as a whole. Here, large and adverse disparities are evident in most instances for African Americans, Hispanics, Asians, Native Americans, Native Hawaiians and Pacific Islanders, and women. For example, although African Americans account for 5.06 percent of all firms in the Construction and AE-CRS sector, they earned only 1.29 percent of all sales and receipts in that sector. Hispanics account for 11.09 percent of firms but only 4.30 percent of sales and receipts. For Asians, the figures are 5.21 percent and 4.00 percent, respectively. For Native Americans, the figures are 0.98 percent and 0.51 percent, respectively. For Native Hawaiians and Pacific Islanders, the figures are 0.17 percent and 0.12 percent, respectively. Finally, women account for 23.55 percent of all Construction and AE-CRS firms but earned only 11.15 percent of all sales and receipts.

Among firms with paid employees, adverse disparities are observed for African Americans, Hispanics, Native Americans and women. Overall, disparities in this category are slightly less

acute than among firms as a whole. However, they remain far larger than the comparable figure for nonminority male-owned firms. This is evident in that the fraction of employer firms compared to the fraction of all firms is far higher among nonminority males than among other race and gender groups. In Table 4.27, for example, nonminority males represent 60.30 percent of all firms but 67.41 percent of employer firms. For all other groups, the direction of this ratio is reversed. That is, each group's fraction among employer firms is substantially smaller than its fraction among firms as a whole, whereas for nonminority males it is larger.

Table 4.27. Disparity Ratios from the 2012 Survey of Business Owners, United States, Construction and AE-CRS

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
All Firms	6,796,672	2,077,651,539	1,385,740	1,825,720,151	9,417,271	502,212,138
Nonminority Male	4,098,217	1,588,153,063	934,173	1,418,932,123	6,918,815	380,577,855
Female	1,600,294	231,672,089	219,948	187,668,757	1,210,435	58,325,262
African American	343,671	26,824,886	21,416	19,607,626	121,053	6,165,077
Hispanic	753,538	89,355,188	68,286	64,485,132	393,114	17,294,719
Asian	353,843	83,128,886	61,401	71,585,506	399,780	25,539,672
Native Hawaiian/Pac. Islander	11,843	2,439,922	1,324	2,018,181	8,483	494,869
Am. Indian & Alaska Native	66,935	10,569,706	8,463	8,317,526	47,582	2,116,501
Panel B. Column Percentages						
All Firms	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Nonminority Male	60.30%	76.44%	67.41%	77.72%	73.47%	75.78%
Female	23.55%	11.15%	15.87%	10.28%	12.85%	11.61%
African American	5.06%	1.29%	1.55%	1.07%	1.29%	1.23%
Hispanic	11.09%	4.30%	4.93%	3.53%	4.17%	3.44%
Asian	5.21%	4.00%	4.43%	3.92%	4.25%	5.09%
Native Hawaiian/Pac. Islander	0.17%	0.12%	0.10%	0.11%	0.09%	0.10%
Am. Indian & Alaska Native	0.98%	0.51%	0.61%	0.46%	0.51%	0.42%
Panel C. Disparity Ratios						
		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Nonminority Male		126.77		115.29	108.98	112.41
Female		47.36		64.76	80.98	73.17
African American		25.53		69.49	83.18	79.43
Hispanic		38.79		71.68	84.71	69.88
Asian		76.85		88.49	95.81	114.77
Native Hawaiian/Pac. Islander		67.40		115.70	94.28	103.13
Am. Indian & Alaska Native		51.66		74.60	82.73	69.01

Source and Notes: See Table 4.25.

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Table 4.28 shows results for the Construction and AE-CRS sector in the MDMA. Among all firms in Construction and AE-CRS, large disparities are observed for African Americans, Hispanics, Native Americans, Native Hawaiians and Pacific Islanders, and women. Among firms with paid employees, large disparities are observed for African Americans, Hispanics, Native Americans and women. As in Table 4.26, nonminority males have a much higher ratio of employer firms to firms as a whole than do minorities or women.

Table 4.28. Disparity Ratios from the 2012 Survey of Business Owners, State of Maryland Market Area, Construction and AE-CRS

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
All Firms	268,069	129,171,203	58,601	116,799,139	557,979	36,898,322
Nonminority Male	91,833	59,327,931	25,059	54,834,137	239,658	15,286,818
Female	75,608	18,308,510	11,322	15,779,225	91,131	5,859,950
African American	32,470	4,800,474	2,822	3,997,472	27,455	1,545,830
Hispanic	27,880	5,330,311	2,876	4,263,575	22,716	1,279,615
Asian	22,007	11,348,002	5,820	10,615,752	57,245	4,290,200
Native Hawaiian/Pac. Islander	235	56,614	31	55,136	448	26,108
Am. Indian & Alaska Native	1,635	372,014	213	330,081	1,828	106,893
Panel B. Column Percentages						
All Firms	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Nonminority Male	34.26%	45.93%	42.76%	46.95%	42.95%	41.43%
Female	28.20%	14.17%	19.32%	13.51%	16.33%	15.88%
African American	12.11%	3.72%	4.82%	3.42%	4.92%	4.19%
Hispanic	10.40%	4.13%	4.91%	3.65%	4.07%	3.47%
Asian	8.21%	8.79%	9.93%	9.09%	10.26%	11.63%
Native Hawaiian/Pac. Islander	0.09%	0.04%	0.05%	0.05%	0.08%	0.07%
Am. Indian & Alaska Native	0.61%	0.29%	0.36%	0.28%	0.33%	0.29%
Panel C. Disparity Ratios						
		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Nonminority Male		134.07		109.79	100.44	96.88
Female		50.25		69.92	84.53	82.20
African American		30.68		71.07	102.18	87.00
Hispanic		39.68		74.38	82.95	70.66
Asian		107.01		91.52	103.30	117.07
Native Hawaiian/Pac. Islander		50.00		89.24	151.78	133.76
Am. Indian & Alaska Native		47.22		77.75	90.13	79.70

Source and Notes: See Table 4.25.

Table 4.29 shows comparable SBO data for the Goods and Services sector in the U.S. as a whole. Here, adverse disparities are evident for African Americans, Hispanics, Asians, Native Americans, Native Hawaiians and Pacific Islanders and women. African Americans, for example, account for 10.99 percent of all firms in the Goods and Services sector, but they earned only 1.25 percent of all sales and receipts in that sector. Hispanics account for 12.52 percent of firms but only 3.89 percent of sales and receipts. For Asians, the figures are 7.67 percent and 6.23 percent, respectively. For Native Americans, the figures are 1.01 percent and 0.29 percent,

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respectively. For Native Hawaiians and Pacific Islanders, the figures are 0.21 percent and 0.06 percent, respectively. Finally, women account for 40.61 percent of all Goods and Services firms but earned only 12.02 percent of all sales and receipts. Comparable, though slightly smaller, disparities are observed as well among firms with paid employees in the Goods and Services sector.¹⁰¹

Table 4.29. Disparity Ratios from the 2012 Survey of Business Owners, United States, Goods and Services

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
All Firms	20,382,708	9,886,426,332	3,750,463	9,138,864,598	46,641,292	1,594,230,074
Nonminority Male	8,182,374	7,199,762,314	1,999,025	6,802,078,692	30,831,896	1,151,084,539
Female	8,278,103	1,188,162,206	815,707	1,002,917,681	7,221,179	205,394,990
African American	2,240,732	123,378,277	87,721	83,843,884	853,999	21,524,880
Hispanic	2,552,335	384,280,756	219,215	315,509,867	1,936,439	53,560,985
Asian	1,564,059	616,363,536	419,625	555,946,893	3,172,797	85,003,943
Native Hawaiian/Pac. Islander	42,906	5,696,523	3,382	4,451,776	30,518	935,722
Am. Indian & Alaska Native	205,984	28,268,419	17,716	23,336,639	160,596	4,878,008
Panel B. Column Percentages						
All Firms	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Nonminority Male	40.14%	72.82%	53.30%	74.43%	66.10%	72.20%
Female	40.61%	12.02%	21.75%	10.97%	15.48%	12.88%
African American	10.99%	1.25%	2.34%	0.92%	1.83%	1.35%
Hispanic	12.52%	3.89%	5.85%	3.45%	4.15%	3.36%
Asian	7.67%	6.23%	11.19%	6.08%	6.80%	5.33%
Native Hawaiian/Pac. Islander	0.21%	0.06%	0.09%	0.05%	0.07%	0.06%
Am. Indian & Alaska Native	1.01%	0.29%	0.47%	0.26%	0.34%	0.31%
Panel C. Disparity Ratios						
		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Nonminority Male		181.41		139.64	124.02	135.46
Female		29.59		50.46	71.18	59.24
African American		11.35		39.22	78.28	57.73
Hispanic		31.04		59.07	71.03	57.48
Asian		81.25		54.37	60.80	47.66
Native Hawaiian/Pac. Islander		27.37		54.02	72.56	65.09
Am. Indian & Alaska Native		28.29		54.06	72.89	64.78

Source and Notes: See Table 4.25.

¹⁰¹ The exception being Asian-owned firms, for which the disparity facing firms with paid employees is substantially more acute than for Asian firms overall.

Market-Based Disparities in Business Formation and Business Owner Earnings

Finally, Table 4.30 shows comparable results for the Goods and Services sector in the MDMA. Among all firms in Goods and Services, adverse disparities are observed for African Americans, Hispanics, Asians, Native Americans, Native Hawaiians and Pacific Islanders and women. Among firms with paid employees, adverse disparities are observed for African Americans, Hispanics, Asians, Native Americans, Native Hawaiians and Pacific Islanders and women. As in Table 4.29, nonminority males have a much higher ratio of employer firms to firms as a whole than do minorities or women.¹⁰² In the MDMA Goods and Services sector, the sales and receipts disparity indices fall at or below the 80 percent threshold in 12 out of 12 cases. All of the disparity indices, throughout this Section, are statistically significant within a 95 percent confidence interval.

Table 4.30. Disparity Ratios from the 2012 Survey of Business Owners, State of Maryland Market Area, Goods and Services

	Number of Firms	Sales and Receipts (\$000s)	Employer Firms	Sales and Receipts (\$000s)	Employees	Payroll (\$000s)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Levels						
All Firms	650,840	267,842,619	113,616	246,150,063	1,430,808	51,624,481
Nonminority Male	156,074	138,038,587	40,974	130,301,561	640,357	24,948,911
Female	284,437	36,816,067	27,272	30,531,482	256,459	7,947,546
African American	146,358	11,259,424	7,012	8,437,302	75,540	2,425,933
Hispanic	49,598	6,711,847	4,293	5,490,077	48,560	1,455,425
Asian	69,805	21,577,220	19,125	19,138,087	140,409	3,650,962
Native Hawaiian/Pac. Islander	717	13,484	58	2,671	209	240
Am. Indian & Alaska Native	4,289	383,717	338	274,942	2,936	82,028
Panel B. Column Percentages						
All Firms	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Nonminority Male	23.98%	51.54%	36.06%	52.94%	44.75%	48.33%
Female	43.70%	13.75%	24.00%	12.40%	17.92%	15.39%
African American	22.49%	4.20%	6.17%	3.43%	5.28%	4.70%
Hispanic	7.62%	2.51%	3.78%	2.23%	3.39%	2.82%
Asian	10.73%	8.06%	16.83%	7.77%	9.81%	7.07%
Native Hawaiian/Pac. Islander	0.11%	0.01%	0.05%	0.00%	0.01%	0.00%
Am. Indian & Alaska Native	0.66%	0.14%	0.30%	0.11%	0.21%	0.16%
Panel C. Disparity Ratios						
		(2) vs. (1)		(4) vs. (3)	(5) vs. (3)	(6) vs. (3)
Nonminority Male		214.91		146.78	124.10	134.01
Female		31.45		51.67	74.67	64.14
African American		18.69		55.54	85.54	76.14
Hispanic		32.88		59.03	89.82	74.61
Asian		75.11		46.19	58.30	42.01
Native Hawaiian/Pac. Islander		4.57		2.13	28.61	0.91
Am. Indian & Alaska Native		21.74		37.55	68.98	53.41

Source and Notes: See Table 4.25.

¹⁰² The exception being Asian-owned firms with paid employees.

V. Statistical Disparities in Capital Markets

A. Introduction

Discrimination occurs whenever the terms of a transaction are affected by personal characteristics of the participants that are not relevant to the transaction. Among such characteristics, the most commonly considered are race, ethnicity and gender. In labor markets, this might translate into equally productive workers in similar jobs being paid different salaries because of their race, ethnicity or gender. In commercial credit markets, it might translate into small business loan approvals differing across racial or gender groups with otherwise similar financial backgrounds.

In this chapter, we examine whether there is evidence consistent with the presence of discrimination against M/WBEs in the commercial credit market. Discrimination in the credit market against such small businesses can have an important effect on the likelihood that they will succeed. Moreover, discrimination in the credit market can even prevent businesses from opening in the first place, and can negatively impact the size a firm can obtain, and/or shorten its longevity in the market.¹⁰³

In our analyses in this chapter, we use data from a variety of sources. First and foremost are data from the Federal Reserve Board that allow us to examine whether discrimination exists in the small business credit market for the key years of 1993, 1998 and 2003, as these are the primary years of availability for the most important data source of small business finance by race and gender that has ever been produced. These surveys were based on a large representative sample of firms with fewer than 500 employees and were administered by the Federal Reserve Board and the U.S. Small Business Administration. The 1993 and 1998 surveys deliberately oversampled minority-owned firms, but the 2003 survey did not.¹⁰⁴ Unfortunately, the much anticipated continuation of this survey series in 2008 (and presumably in 2013) never materialized due to the Federal Reserve Board's cancellation of this important effort.¹⁰⁵

Next, in addition to the 1993, 1998 and 2003 Federal Reserve data, this chapter also analyzes similar datasets collected through NERA's own surveys conducted from 1999 through 2007, that mirrored the relevant sections of the earlier Federal Reserve Board surveys. Results from the NERA credit surveys are consistent with the results obtained from the 1993-2003 Federal Reserve Board data.

¹⁰³ Again, as noted in Chapter IV, these factors also illustrate why, in a disparity study intended to answer the question of whether discrimination is present in business enterprise, adjusting availability for "capacity" factors such as firm age, firm size or firm revenues, is not a legitimate practice when there is evidence that suggests that these factors themselves are tainted by discrimination. To do so would be to inappropriately introduce one or more endogenous variables into the analysis.

¹⁰⁴ The 2003 survey took other steps, however, to increase the likelihood that minority-owned and women-owned firms were captured in the sampling frame. For more details, see National Opinion Research Center (2005), p. 11.

¹⁰⁵ For more on this, see fn. 148 below.

Finally, we review the results of the most recent available research on commercial credit market discrimination, spanning the time period from 2008 forward. Much of this review focuses on the work of Dr. Alicia Robb and her colleagues with data from the Kauffman Firm Survey, the largest and longest longitudinal survey of new businesses in the world. Analyses of the Kauffman data are, as well, consistent with those obtained from the 1993-2003 Federal Reserve Board data and the 1999-2007 NERA credit survey data.

Taken as a whole, these data provide qualitative and quantitative evidence consistent with the presence of discrimination against minorities in the credit market for small businesses. For example, we find that African American-owned firms are much more likely to report being seriously concerned with credit market problems and report being less likely to apply for credit because they fear the loan would be denied. Moreover, after controlling for a large number of characteristics of the firms, we find that African American-owned firms, Hispanic-owned firms, and to a lesser extent other minority-owned firms, are substantially and statistically significantly more likely to be denied credit than are nonminority-owned firms. We find some evidence that women are discriminated against in this market as well. The principal results are as follows:

- Minority-owned firms were more likely to report that they did not apply for a loan over the preceding three years because they feared the loan would be denied (*see* Tables 5.15, 5.22, 5.29);
- When minority-owned firms applied for a loan, their loan requests were substantially more likely to be denied than non-minorities, even after accounting for differences like firm size and credit history (*see* Tables 5.8, 5.9, 5.18, 5.19, 5.25, 5.26);
- When minority-owned firms *did* receive a loan, they were obligated to pay higher interest rates on the loans than comparable nonminority-owned firms (*see* Tables 5.13, 5.14, 5.21, 5.27);
- A larger proportion of minority-owned firms than nonminority-owned firms report that credit market conditions are a serious concern (*see* Tables 5.3, 5.4, 5.5, 5.6, 5.7, 5.17, 5.24);
- A larger share of minority-owned firms than nonminority-owned firms believes that the availability of credit is the most important issue likely to confront them in the upcoming year (*see* Tables 5.5, 5.6);
- There is no evidence that discrimination in the market for credit is significantly different in the South Atlantic census division or in the construction and construction-related professional services industries than it is in the nation or the economy as a whole (various tables);
- There is no evidence that the level of discrimination in the market for credit has diminished between 1993 and 2003 (various tables);

- Evidence from NERA’s own 1999-2007 credit surveys, which contained questions similar to the relevant portions of the SSBF, is fully consistent with the findings drawn from the earlier SSBF data (*see* Tables 5.30, 5.31); and
- Post 2007 evidence from non-SSBF sources, particularly the Kauffman Firm Survey, yield results that are fully consistent with those drawn from the earlier SSBF data (*see* Section L, below).

The structure of this chapter is as follows. First, we outline the main theories of business credit discrimination and discuss how they might be tested. Second, we examine the evidence on the existence of capital/liquidity constraints facing individuals in the mortgage market, households in the non-mortgage loan market, and for small businesses in the commercial credit market. Third, we describe the Federal Reserve Board data files used in the chapter and then examine in more detail problems faced by minority-owned firms in obtaining credit. Fourth, we describe comparable analyses and results using NERA’s own credit surveys conducted between 1999-2007. Fifth, we provide a series of answers to potential criticisms and present our conclusions. Finally, we provide an overview of the results of others’ research, with a focus on the most recent time period from 2008 forward and draw conclusions about its consistency with our own results.

B. Theoretical Framework and Review of the Literature

Most economic studies of discrimination draw on the analyses contained in Gary Becker’s (1957) *The Economics of Discrimination*. Becker’s main contribution was to translate the notion of discrimination into financial terms. Discrimination, in this view, results from the desire of owners, workers, or customers to avoid contact with certain groups. This being the case, transactions with the undesired groups would require more favorable terms than those that occur with a desired group. Assume that the primary objective of a financial institution is to maximize their expected profits. The expected return on a loan will depend on the interest rate charged and the likelihood that a borrower defaults. The financial institution would approve any loan for which the expected return on the loan exceeded the cost of the funds to the institution. Discrimination would then result in either (a) higher interest rates being charged to undesired groups having otherwise similar characteristics to the desired group, or (b) requiring better characteristics (*i.e.*, a lower expected default rate) from the undesired group at any given interest rate. In other words, applicants from the disadvantaged group might either be appraised more rigorously or be given less favorable terms on the loan, or both.

A similar connection between the likelihood of loan approval and the race, ethnicity or gender of the applicant might also be found if lenders employ “statistical discrimination”—a concept first put forth by economists Kenneth Arrow (1973) and Edmund Phelps (1972)—meaning that lenders use personal characteristics such as race, ethnicity or gender to infer the likelihood of default on the loan. If experience has suggested that certain groups of individuals are on average more or less likely to default, then the lender may use this information to economize on the costs of gathering more directly relevant information. Hence, discrimination would not reflect the preferences of the owner but would, rather, reflect an attempt to minimize costs. Empirically, the racial, ethnic or gender characteristics of the applicant could proxy for unobserved characteristics of their creditworthiness.

In the public policy realm, there has been an active debate about whether banks discriminate against minority applicants for mortgages. In particular, banks were often accused of “redlining”—that is, not granting loans for properties located in certain geographic areas. To analyze that issue, the Home Mortgage Disclosure Act was passed by Congress in 1975 to require lenders to disclose information on the geographic location of their home mortgage loans. These data, however, were not sufficient to assess whether or not there was discrimination in the market for mortgage loans.

In 1992, researchers at the Federal Reserve Bank of Boston collected additional information from mortgage lenders (Munnell, *et al.*, 1996). In particular, they tried to collect any information that might be deemed economically relevant to whether a loan would be approved. In the raw data, nonminorities had 10 percent of their loans rejected, whereas rejection rates were 28 percent for both African Americans and Hispanics. Even after the creditworthiness of the borrowers (including the amount of the debt, debt-to-income ratio, credit history, loan characteristics, *etc.*) were controlled for, African Americans were still found to be 7 percentage points less likely to be granted the loan. A variety of criticisms have been launched at this study (*See, e.g.*, Horne, 1994; Day and Liebowitz, 1998; and Harrison, 1998), most alleging various errors in the Munnell, *et al.* (1996) data. Responses to these criticisms are found in Browne and Tootell (1995) and Tootell (1996). Carr and Megbolugbe (1993) and Glennon and Stengle (1994) undertook independent examinations of the Munnell, *et al.* (1996) data that addressed Horne’s (1994) major criticisms and reached similar conclusions as Munnell, *et al.* (1996). As Ardalan (2006, p. 123) notes, “Overall, Munnell *et al.* (1996) paid a great deal of attention to their data and no one has provided credible evidence that the results of the study are influenced by data errors.”

In addition to the type of statistical analysis done in the Munnell, *et al.* (1996) study, two other approaches have been used to measure discrimination in mortgage markets. First, Federal Reserve regulators can examine a lending institution’s files to try to identify any cases where a loan rejection looks suspicious. Second, audit studies have been used with paired “identical” applicants. Such studies have also found evidence of discrimination (*See, e.g.* Cloud and Galster, 1993; Smith and Cloud, 1996; and Yinger, 1998), although the audit approach is not without its critics (Heckman, 1998, arguing that theoretical tester heterogeneity invalidates the conclusions of paired testing). Subsequent research has shown Heckman’s theoretical critique is not borne out when tested empirically (*See* Ross, *et al.* 2008). Hanson, *et al.* (2016) went a step further and designed a testing experiment that is not subject to Heckman’s critique at all, by using e-mail correspondence with mortgage loan originators, and concludes there is a continuing presence of racial discrimination in mortgage markets.

Another relevant subset of the literature is concerned with the severity of liquidity constraints affecting consumers in non-mortgage credit markets. A consumer is said to be liquidity-constrained when lenders refuse to make the household a loan or offer the household less than they wished to borrow (Ferri and Simon, 1997). Many studies have suggested that roughly 20 percent of U.S. families are liquidity-constrained (*See* Hall and Mishkin, 1982; and Jappelli, 1990). As might be expected, liquidity-constrained households are typically younger, with less wealth and accumulated savings (Hayashi, 1985; and Jappelli, 1990). The research shows minority households to be substantially more likely to be liquidity-constrained even when a variety of financial characteristics of households are controlled for (Jappelli, 1990; and Ferri and

Simon, 1997). Using data from the *Survey of Consumer Finances*, Dogra and Gorbachev (2016) document that despite an increase in household debt between 1983 and 2007, the proportion of liquidity-constrained households did not decline. Using data from the 2010-2013 *Consumer Expenditure Surveys*, Chénier, *et al.* (2015) confirm that liquidity constraints remain significantly more severe for minority households than for similarly-situated nonminority households.

We turn next to the more directly relevant evidence on liquidity constraints facing small businesses. Just like individuals and households, businesses can also face liquidity constraints.¹⁰⁶ Liquidity constraints can be a problem in starting a business as well as in running it.¹⁰⁷ Discrimination in the credit market against minority- and women-owned small businesses can have a devastating effect on their success, and may even prevent them from opening in the first place.¹⁰⁸ In his report for *Builders Association of Greater Chicago v. the City of Chicago*,¹⁰⁹ Professor Tim Bates (2002) wrote “from its origins, the black-business community has been constrained by limited access to credit, limited opportunities for education and training, and

¹⁰⁶ Evans and Leighton (1989) and Evans and Jovanovic (1989) have argued formally that entrepreneurs face difficulties borrowing money. As in the discussion above, such individuals are labeled liquidity constrained by economists. Using data from the National Longitudinal Survey of Youth from 1966-1981 and the Current Population Surveys from 1968-1987, these authors found that, all else equal, people with greater family assets are more likely to switch to self-employment from employment. Similar findings with more recent data have been made, in the US and abroad, by numerous researchers, including Meyer (1990), Holtz-Eakin, Joulfaian, and Rosen (1994), Lindh and Ohlsson (1996), Lindh and Ohlsson (1998), Blanchflower and Oswald (1998), Fairlie (1999), Dunn and Holtz-Eakin (2000), Johansson (2000), Taylor (2001), Giannetti and Simonov (2004), Gentry and Hubbard (2005), Holtz-Eakin and Rosen (2005), Nykvist (2005), Cagetti and DeNardi (2006), Zissimopoulos and Karoly (2007), Fairlie and Robb (2008), Zissimopoulos and Karoly (2009), and Lofstrom and Bates (2013). Blanchflower and Oswald (1998) studied the probability that an individual reports him or herself as self-employed. Consistent with the existence of capital constraints on potential entrepreneurs, their econometric estimates imply that the probability of being self-employed depends positively upon whether the individual ever received an inheritance or gift. Holtz-Eakin, *et al.* (1994a, 1994b) examine flows in and out of self-employment and also find that inheritances both raise entry and slow exit. Similarly, Lindh and Ohlsson (1996) suggest that the probability of being self-employed increases when people receive windfall gains in the form of lottery winnings and inheritances. Further confirmation of the positive effect of inheritances on reducing liquidity constraints is found, *e.g.*, in Disney and Gathergood (2009) and Sauer and Wilson (2016). Housing equity also plays an important role in shaping the supply of entrepreneurs (*See, e.g.*, Black, de Meza and Jeffrey (1996), Cavalluzzo and Walken (2005), and Adelino, *et al.* (2015). Additionally, Blanchflower and Oswald (1998) present evidence that potential entrepreneurs, when directly questioned in interview surveys, say that raising capital is one of their principal problems. The liquidity constraint interpretation has been challenged by Hurst and Lusardi (2004), who argue, using data from 1989 and 1994 waves of the *Panel Study of Income Dynamics*, that business entry rates are essentially flat across the asset distribution except above the 95th percentile. However, Fairlie and Krashinsky (2012) find that when the sample is stratified according to job losers and non-job losers, the data show evidence consistent with the liquidity constraints hypothesis—that of generally increasing rates of entry into self-employment throughout the asset distribution.

¹⁰⁷ *See e.g.*, Fan and White (2003), Fairlie and Krashinsky (2012), Corradin and Popov (2013), and Fort, *et al.* (2013), Kleiner (2013). Schmalz, *et al.* (2013) found similar results for France, as did Black, *et al.* (1996) and Kleiner (2013), for the UK.

¹⁰⁸ For further evidence regarding the latter effect, *see* Chapter IV.

¹⁰⁹ 298 F.Supp. 2d 725 (N.D. Ill. 2003).

nonminority stereotypes about suitable roles for minorities in society.”¹¹⁰ As Bates points out, almost 60 years prior Gunnar Myrdal had observed,

The Negro businessman ... encounters greater difficulties than whites in securing credit. This is partly due to the marginal position of Negro business. It is also partly due to prejudicial opinions among whites concerning business ability and personal reliability of Negroes. In either case a vicious circle is in operation keeping Negro business down.”¹¹¹

Available evidence indicates that capital constraints for M/WBEs are particularly large. A survey conducted by the U.S. Chamber of Commerce (2005, p. 55) found that although 19 percent of nonminority male business owners reported that obtaining credit was the biggest problem for their business, the corresponding figure for nonminority women was 23 percent. For Asian/Pacific Islanders the figure was 34 percent; for Native Americans it was 43 percent; for African Americans it was 46 percent, and for Hispanics it was 52 percent.¹¹²

Bates (1989) finds that racial differences in levels of financial capital have a significant effect upon racial patterns in business failure rates. Fairlie and Meyer (1996) find that racial groups with higher levels of unearned income have higher levels of self-employment. In an important paper, Fairlie (1999) uses data from the 1968-1989 *Panel Study of Income Dynamics* to examine why African American men are one-third as likely to be self-employed as nonminority men. Fairlie finds that the large discrepancy is due to an African American transition rate into self-employment that is approximately one half the nonminority rate and an African American transition rate out of self-employment that is twice the nonminority rate. He finds that capital constraints—measured by interest income and lump-sum cash payments—significantly reduce the flow into self-employment from wage/salary work, with this effect being nearly seven times larger for self-employed African Americans than for nonminority self-employed persons. Fairlie then attempts to decompose the racial gap in the transition rate into self-employment into a part due to differences in the distributions of individual characteristics and a part due to differences in the processes generating the transitions. He finds that differences in the distributions of characteristics between African Americans and non-minorities explain only a part of the racial gap in the transition rate into self-employment. In addition, racial differences in specific variables, such as levels of assets and the likelihood of having a self-employed father, provide important contributions to the gap. He concludes, however, that “the remaining part of the gap is large and is due to racial differences in the coefficients. Unfortunately, we know much less about the causes of these differences. They may be partly caused by lending or consumer discrimination against blacks” (Fairlie, 1999, p. 14).

Using 2002 data from the *Characteristics of Business Owners* survey, Fairlie and Robb (2008) document a strong positive relationship between the availability and amount of startup capital and business outcomes for African American and Hispanic firms. They conclude: “Firms with higher levels of startup capital are less likely to close and are more likely to have higher profits and sales and to hire employees. The estimated positive relationship is consistent with the

¹¹⁰ See also Bates (1991a); Bates (1991b); Bates (1993) Bates (1997), and Fairlie and Robb (2008).

¹¹¹ Myrdal (1944), p. 308. See also Bates (1973).

¹¹² See also Table 5.7 below.

inability of some entrepreneurs to obtain the optimal level of startup capital because of liquidity constraints” (Fairlie and Robb, 2008, p.11). Further evidence for liquidity constraints affecting the formation of Hispanic-owned businesses has been documented, *e.g.*, by Fairlie and Woodruff (2010) and Lofstrom and Wang (2009).

There is also research on racial differences in access to credit among small businesses—the main subject of this chapter. Cavalluzzo and Cavalluzzo (1998) used data from the 1988-1989 National Survey of Small Business Finances (NSSBF), conducted by the Federal Reserve Board, to analyze differences in application rates, denial rates, and other outcomes by race, ethnicity and gender in a manner similar to the econometric models reported below in this chapter. They documented a large discrepancy in credit access between nonminority- and minority-owned firms that could not be explained by available firm financial characteristics. Unfortunately, this earliest NSSBF data did not over-sample minority-owned firms and contained only limited information on a firm’s credit history and that of its owner, thus reducing the ability to provide a powerful test of the causal impact of race, ethnicity or gender on loan decisions.

Cole (1999) and Cavaluzzo, *et al.* (2002), using data from the 1993 NSSBF, found higher loan application rejection rates for minority-owned businesses than similarly-situated nonminority businesses, and higher loan denial rates for African American-owned and Asian-owned businesses. Blanchflower, Levine and Zimmerman (2003), using data from the 1993 NSSBF and the 1998 Survey of Small Business Finances (SSBF), find that African American-owned small businesses were about twice as likely to be denied credit even after controlling for a wide variety of balance sheet, creditworthiness and other factors. They find similar results for firms owned by Asians, Hispanics, and women, although at smaller magnitudes than for African Americans. They conclude that the racial disparity is likely to be caused by discrimination. Cavaluzzo and Wolken (2005), using data from the 1998 SSBF, find that large disparities exist in denial rates for African American-, Hispanic-, and Asian-owned firms when compared to similarly-situated nonminority-owned firms.

The main analyses in the present chapter take advantage of the three most recent waves of the Survey of Small Business Finances: the 1993 NSSBF data, the 1998 SSBF data, and the 2003 SSBF data. All three datasets have better information on creditworthiness than did the earlier (1988-1989) NSSBF data, and the 1993 and 1998 surveys have a larger sample of minority-owned firms than did the earlier NSSBF data. These datasets are also used to conduct an extensive set of specification checks designed to weigh the possibility that our results are subject to alternative interpretations.

C. Empirical Framework and Description of the Data

1. Introduction

Disputes about discrimination typically originate in differences in the average outcomes for two groups. To determine whether a difference in the loan denial rate for African American-owned firms compared to nonminority-owned firms is consistent with discrimination, it is necessary to compare African American- and nonminority-owned firms that have similar risks of default; that is, the fraction of the African American firms’ loans that would be approved if they had the same creditworthiness as the nonminority-owned firms. A standard approach to this problem is to

statistically control for firms' characteristics relevant to the loan decision. If African American-owned firms with the same likelihood of default as nonminority-owned firms are less likely to be approved, then it is appropriate to attribute such a difference to discrimination.

Following Munnell, *et al.* (1996) we estimated the following loan denial equation:

$$(1) \quad \text{Prob}(D_i = 1) = \Phi(\beta_0 + \beta_1 CW_i + \beta_2 X_i + \beta_3 R_i),$$

where D_i represents an indicator variable for loan denial for firm i (that is, 1 if the loan is denied and 0 if accepted), CW represents measures of creditworthiness, X represents other firm characteristics, R represents the race, ethnicity or gender of the firm's ownership, and Φ is the cumulative normal probability distribution.¹¹³ This econometric model can be thought of as a reduced form version of a structural model that incorporates firms' demand for and financial institutions' supply of loan funds as a function of the interest rate and other factors. Within the framework of this model, a positive estimate of β_3 is consistent with the presence of discrimination.¹¹⁴

We begin with the 1993 NSSBF dataset and will continue chronologically through the 2003 dataset and then proceed to evidence from NERA's own comparable surveys conducted in various geographies between 1999 and 2007. This chronological progression allows the reader to see the consistency of the main findings over time. This approach serves as well to demonstrate the value of over-sampling minority and female small business owners, as was the case in the 1993 and 1998 surveys, but not the 2003 survey. Unfortunately, the much anticipated 2008 SSBF results never materialized because the Federal Reserve cancelled this important survey effort.¹¹⁵

2. 1993 NSSBF Data

The 1993 NSSBF data contain substantial information regarding credit availability on a nationally representative target sample of for-profit, non-farm, non-financial business enterprises with fewer than 500 employees. The survey was conducted during 1994 and 1995 for the Board of Governors of the Federal Reserve System and the U.S. Small Business Administration; the data relate to the years 1992 and 1993. The data file used here contains 4,637 firms.¹¹⁶ In this NSSBF file, minority-owned firms were over-sampled, but sampling weights are provided to generate nationally representative estimates. Of the firms surveyed, 9.5 percent were owned by African Americans, 6.4 percent were owned by Hispanics, and 7.4 percent were owned by individuals of other races (*i.e.*, Asians/Pacific Islanders, Native Americans).¹¹⁷

¹¹³ Additional discussion of Probit regression appears in Chapter IV, Section C.1.

¹¹⁴ The Equal Credit Opportunity Act prohibits discrimination in access to credit by race and would apply to both Becker-type and statistical discrimination.

¹¹⁵ For more on this, see fn. 148 below.

¹¹⁶ The median size of firms in the sample was 5.5 and mean size was 31.6 full-time equivalent employees; 440 firms out of 4,637 had 100 or more full-time equivalent employees.

¹¹⁷ There were also two firms in the "Other race" category in 1993 that reported multiple or mixed race.

Table 5.1 presents population-weighted sample means from these data for all firms in the sample that applied for credit. The estimates indicate that African American-owned firms are almost 2.5 times more likely to have a loan application rejected as are nonminority firms (65.9 percent versus 26.9 percent).¹¹⁸ Other minority groups are denied at rates higher than nonminorities as well, but the magnitude of the African American-to- nonminority differential is particularly large.

Minority-owned firms, however, do have characteristics that are different from those of nonminority-owned firms, and such differences may contribute to the gap in loan denial rates. For instance, minority-owned firms were younger, smaller (whether measured in terms of sales or employment), more likely to be located in urban areas, and more likely to have an owner with fewer years of experience than their nonminority counterparts. Minority firms were also less creditworthy, on average, than their nonminority counterparts, as measured by whether (a) the owner had legal judgments against him or her over the previous three years, (b) the firm had been delinquent for more than 60 days on business obligations over the preceding three years, or (c) the owner had been delinquent for more than 60 days on personal obligations over the prior three years. Additionally, compared to nonminority-owned firms, African American-owned firms were also more likely, on average, to have owners who had declared bankruptcy over the preceding seven years.

Minority-owned firms also sought smaller amounts of credit than nonminority-owned firms. This was particularly true for African American-owned firms, who requested loans that were, on average, about 60 percent smaller than those requested by nonminority-owned firms, and Hispanic-owned firms, who requested loans about 42 percent smaller than those requested by nonminority-owned firms.

The NSSBF database does not identify the specific city or state where the firm is located; instead, data are reported for four census regions, nine census divisions, and urban or rural location. Table 5.2 presents evidence for the South Atlantic (SATL) division, which includes the State of Maryland and eight surrounding states.¹¹⁹ This SATL sample includes the owners of 773 firms, of which 342 owners (44.2%) said that they had applied for a loan over the preceding three-year period.

The overall denial rate of 29.2 percent in the SATL is slightly higher than the national rate of 28.8 percent reported in Table 5.1. The difference in the denial rates between African American-owned firms and nonminority-owned firms is also higher in the SATL (43.5 percentage points) than in the nation as a whole (39.0 percentage points). On balance, however, the weighted

¹¹⁸ Cavalluzzo and Cavalluzzo (1998) examined these outcomes using the 1987 NSSBF and similarly found that denial rates (weighted) are considerably higher for minorities. Nonminority-owned firms had a denial rate for loans of 22 percent compared with 56 percent for African Americans, 36 percent for Hispanics, and 24 percent for other races, which are broadly similar to the differences reported here. These estimates for minority groups are estimated with less precision, however, because of the smaller number of minority-owned firms in the 1987 sample.

¹¹⁹ In addition to Maryland, the SATL includes Delaware, the District of Columbia, Florida, Georgia, North Carolina, South Carolina, Virginia and West Virginia.

sample means are not significantly different in the SATL than in the nation as a whole—either overall or by race, ethnicity or gender.

Table 5.1. Selected Population-Weighted Sample Means of Loan Applicants from 1993 NSSBF Data

	All	Non-minority	African American	Hispanic	Other Races
% of Firms Denied in the Last Three Years	28.8	26.9	65.9	35.9	39.9
<i>Credit History of Firm/Owners</i>					
% Owners with Judgments Against Them	4.8	4.1	16.9	5.2	15.2
% Firms Delinquent in Business Obligations	24.2	23.1	49.0	25.1	31.6
% Owners Delinquent on Personal Obligations	14.0	12.6	43.4	14.8	24.5
% Owners Declared Bankruptcy in Past 7yrs	2.4	2.4	5.3	2.0	0.8
<i>Other Firm Characteristics</i>					
% Female-Owned	17.9	18.1	18.2	9.7	23.1
Sales (in 1,000s of 1992 \$)	1795.0	1870.6	588.6	1361.3	1309.1
Profits (in 1,000s of 1992 \$)	86.7	84.5	59.9	189.5	54.0
Assets (in 1,000s of 1992 \$)	889.4	922.5	230.3	745.6	747.3
Liabilities (in 1,000s of 1992 \$)	547.4	572.8	146.2	308.6	486.0
Owner's Years of Experience	18.3	18.7	15.3	15.9	14.9
Owner's Share of Business	77.1	76.5	86.4	83.9	77.1
% ≤ 8 th Grade Education	0.8	0.7	0.0	3.4	1.0
% 9 th -11 th Grade Education	2.2	2.2	3.7	1.8	1.2
% High School Graduate	19.6	19.7	12.8	27.7	14.9
% Some College	28.0	28.3	36.0	20.6	19.8
% College Graduate	29.2	29.2	28.0	24.1	36.5
% Postgraduate Education	20.2	19.9	19.5	22.3	26.6
% Line of credit	48.7	49.1	35.8	52.8	43.7
Total Full-time Employment in 1990	11.4	11.8	6.8	9.3	8.8
Total Full-time Employment in 1992	13.6	13.9	8.3	10.8	12.3
Firm age, in years	13.4	13.6	11.5	13.3	9.3
% New Firm Since 1990	9.4	9.4	13.0	6.4	9.5
% Firms Located in MSA	76.5	75.1	91.2	90.7	85.7
% Sole Proprietorship	32.8	32.3	48.6	38.2	24.2
% Partnership	7.8	7.8	7.7	6.7	7.9
% S Corporation	26.1	27.1	11.7	13.7	27.1
% C Corporation	33.4	32.8	32.1	41.4	40.8
% Existing Relationship with Lender	24.6	24.7	12.8	29.6	25.7
% Firms with Local Sales Market	54.1	54.7	42.9	55.0	47.4
<i>Characteristics of Loan Application</i>					
Amount Requested (in 1,000s of 1992 \$)	300.4	310.8	126.5	179.1	310.5
% Loans to be Used for Working Capital	8.4	8.8	4.9	4.6	5.5
% Loans to be Used for Equipment/Machinery	2.3	2.4	1.7	0.2	0.6
% Loans to be Used for Land/Buildings	0.4	0.4	0.9	0.0	0.0
% Loans to be Backed by Real Estate	28.3	28.6	24.7	26.2	24.7
Sample Size (unweighted)	2,007	1,648	170	96	93

Source: NERA calculations from 1993 NSSBF.

Notes: (1) Sample weights are used to provide statistics that are nationally representative of all small businesses.
 (2) Sample restricted to firms that applied for a loan over the preceding three years.

Table 5.2. Selected Sample Means of Loan Applicants—SATL

	All	Non-minority	African American	Hispanic	Other Races
% of Firms Denied in the Last Three Years	29.2	26.3	69.8	50.9	33.4
<i>Credit History of Firm/Owners</i>					
% Owners with Judgments Against Them	4.8	3.9	14.9	0.0	22.5
% Firms Delinquent in Business Obligations	23.3	21.4	49.2	33.4	33.6
% Owners Delinquent on Personal Obligations	11.4	8.5	41.1	16.5	51.3
% Owners Declared Bankruptcy in Past 7yrs	2.3	2.2	6.6	0.0	0.0
<i>Other Firm Characteristics</i>					
% Female-Owned	18.3	17.8	29.9	9.7	28.6
Sales (in 1,000s of 1992 \$)	1727.7	1778.4	776.3	2363.0	635.8
Profits (in 1,000s of 1992 \$)	74.5	62.5	17.5	460.1	6.8
Assets (in 1,000s of 1992 \$)	1022.3	1074.2	277.8	815.9	752.9
Liabilities (in 1,000s of 1992 \$)	645.4	675.5	197.4	650.0	340.3
Owner's Years of Experience	19.1	19.7	15.2	10.9	16.6
Owner's Share of Business	73.8	73.5	84.8	62.3	82.9
% ≤ 8 th Grade Education	0.3	0.4	0.0	0.0	0.0
% 9 th -11 th Grade Education	1.9	1.6	6.7	3.9	0.0
% High School Graduate	16.4	16.2	21.3	27.0	0.0
% Some College	28.2	29.6	25.7	18.6	0.0
% College Graduate	32.5	31.6	31.4	29.5	67.3
% Postgraduate Education	20.7	20.6	14.8	21.0	32.7
% Line of credit	47.4	48.5	32.8	53.0	28.6
Total Full-time Employment in 1990	12.4	12.8	10.9	8.0	8.2
Total Full-time Employment in 1992	14.1	14.5	14.2	9.6	8.2
Firm age, in years	13.2	13.6	10.3	9.3	10.1
% New Firm Since 1990	4.4	3.9	11.2	12.0	0.0
% Firms Located in MSA	80.6	80.0	89.6	92.0	72.4
% Sole Proprietorship	23.1	23.0	45.0	4.5	20.8
% Partnership	6.3	6.7	0.7	3.5	5.1
% S Corporation	29.7	30.3	22.8	23.9	28.6
% C Corporation	40.9	40.0	31.4	68.0	45.5
% Existing Relationship with Lender	24.0	23.8	21.7	15.9	43.6
% Firms with Local Sales Market	49.8	50.3	42.7	30.2	72.5
<i>Characteristics of Loan Application</i>					
Amount Requested (in 1,000s of 1992 \$)	342.9	352.9	183.1	440.0	126.3
% Loans to be Used for Working Capital	6.9	7.4	1.3	3.5	5.3
% Loans to be Used for Equipment/Machinery	3.0	3.4	0.0	0.0	0.0
% Loans to be Used for Land/Buildings	0.4	0.4	0.0	0.0	0.0
% Loans to be Backed by Real Estate	24.6	23.9	38.5	34.4	14.7
Total Sample Size (unweighted)	342	270	45	19	8

Source: See Table 5.1.

Notes: (1) Sample weights are used to provide statistics that are nationally representative of all small businesses. (2) Some variable means are computed from slightly smaller samples because of missing values. (3) "Other Races" are not reported separately due to small sample size.

D. Qualitative Evidence

Before moving on to the results of our multivariate analysis, we first report on what business owners themselves say are their main problems. While this evidence is not conclusive in determining whether discrimination exists, it highlights firms' perceptions regarding discrimination in obtaining credit. That African American-owned firms and other minorities report greater difficulty in obtaining commercial credit than do nonminority-owned firms, but report other types of problems no more frequently, suggests either that discrimination takes place or that perceptions of discrimination exist that are unwarranted. It therefore complements the econometric analysis provided subsequently, which can distinguish between these two hypotheses.

Table 5.3 summarizes, for the U.S. as a whole, responses to specific questions about problems that firms confronted over the 12-month period before the date of response. In the top panel, respondents were asked to what extent credit market conditions had been a problem. African Americans and Hispanics were much more likely to say that it had been a "serious" problem (31.3 percent and 22.9 percent, respectively) than nonminorities (12.7 percent). The bottom panel of the table reports the results for eight other designated problem areas: (1) training costs; (2) worker's compensation costs; (3) health insurance costs; (4) IRS regulation or penalties; (5) environmental regulations; (6) The American with Disabilities Act; (7) the Occupational Safety and Health Act; and (8) The Family and Medical Leave Act. Differences between African American-owned firms and Hispanic-owned firms, on the one hand, and nonminority-owned firms, on the other, are much less pronounced in these eight areas than they are in relation to credit market conditions.¹²⁰ The finding that minority-owned firms are largely indistinguishable from nonminority-owned firms in reporting a variety of problems, except for the case of credit, indicates that these firms perceive credit availability to be a particular problem for them.

Results are similar in Table 5.4 for the SATL division—with African American, Hispanic and other minority-owned firms being more likely than nonminority-owned firms to say that credit market conditions had been a serious problem in the preceding 12 months.

¹²⁰ We also estimated a series of ordered Logit equations (not reported) to control for differences across firms in their creditworthiness, location, industry, size, and the like. It is apparent from these regressions that African American-owned firms were more likely to report that credit market conditions were especially serious.

Table 5.3. Problems Firms Experienced During Preceding 12 Months—USA

	All	Non-minority	African American	Hispanic	Other Races
<i>Credit Market Conditions</i>					
Percent reporting not a problem	66.2	67.3	43.1	58.9	65.8
Percent reporting somewhat of a problem	20.1	19.9	25.6	18.2	21.3
Percent reporting serious problem	13.7	12.7	31.3	22.9	12.9
<i>Other Potential Problems (% reporting problem is serious)</i>					
Training costs	6.5	6.6	7.2	6.3	4.3
Worker's compensation costs	21.7	21.0	19.3	30.6	28.7
Health insurance costs	32.5	31.6	38.1	44.3	35.0
IRS regulation or penalties	12.3	11.8	17.1	17.9	13.2
Environmental regulations	8.5	8.5	5.6	7.4	11.0
Americans with Disabilities Act	2.7	2.6	3.6	2.7	3.9
Occupational Safety and Health Act	4.5	4.5	3.9	3.6	6.2
Family and Medical Leave Act	2.7	2.5	4.5	3.1	4.8
Number of observations (unweighted)	2,007	1,648	170	96	93

Source: See Table 5.1.

Note: Figures are rounded. Rounding was performed subsequent to any mathematical calculations.

Table 5.4. Problems Firms Experienced During Preceding 12 Months—SATL

	All	Non-minority	African American	Hispanic	Other Races
<i>Credit Market Conditions</i>					
Percent reporting not a problem	65.3	66.8	38.4	58.9	69.2
Percent reporting somewhat of a problem	20.9	20.9	28.8	14.2	18.4
Percent reporting serious problem	13.7	12.3	32.8	26.9	12.4
<i>Other Potential Problems (% reporting problem is serious)</i>					
Training costs	6.5	6.5	5.4	4.8	8.4
Worker's compensation costs	21.5	20.5	25.1	44.0	20.1
Health insurance costs	29.8	27.7	39.4	44.6	50.6
IRS regulation or penalties	12.7	12.3	19.1	24.3	5.0
Environmental regulations	9.3	10.1	6.1	2.9	2.5
Americans with Disabilities Act	2.1	2.0	6.6	0.0	1.2
Occupational Safety and Health Act	3.4	3.2	5.7	5.3	2.7
Family and Medical Leave Act	2.5	2.3	7.8	1.6	1.2
Number of observations (unweighted)	773	573	112	47	41

Source: See Table 5.1.

Note: Figures are rounded. Rounding was performed subsequent to any mathematical calculations.

Tables 5.5 and 5.6 report the views of NSSBF respondents for the U.S. as a whole and the SATL division, respectively, on the most important issues businesses expected to face over the following year. Nationally, credit availability and cash flow again appear to be more important issues for African American-owned firms than for nonminority-owned firms. Nonminority-owned firms were especially worried about health care costs. Hispanic and other minority-owned firms were especially worried about general business conditions.

In the SATL, credit availability and cash flow are far more important issues for African American-owned firms than for nonminority-owned firms. Almost four times as many African American-owned firms reported credit availability as the most important issue than nonminority-owned firms. In contrast, in the SATL, health care costs were a large concern for all types of firms.

Table 5.5. Percentage of Firms Reporting Most Important Issues Affecting Them Over the Next 12 Months—USA

	All	Non-minority	African American	Hispanic	Other Races
Credit availability	5.9	5.5	20.5	5.3	4.3
Health care, health insurance	21.1	22.1	12.3	13.7	14.8
Taxes, tax policy	5.7	5.7	2.6	8.7	3.3
General U.S. business conditions	11.8	11.5	8.9	14.4	17.4
High interest rates	5.4	5.7	1.8	3.5	3.4
Costs of conducting business	3.3	3.3	3.8	3.8	3.6
Labor force problems	3.5	3.3	3.9	5.5	3.6
Profits, cash flow, expansion, sales	10.3	9.9	20.3	9.8	11.9
Number of observations (unweighted)	4,388	3,383	424	262	319

Source: See Table 5.1.

Table 5.6. Percentage of Firms Reporting Most Important Issues Affecting Them Over the Next 12 Months—SATL

	All	Non-minority	African American	Hispanic	Other Races
Credit availability	7.1	6.5	25.1	7.2	0.0
Health care, health insurance	19.4	19.6	13.2	17.2	21.6
Taxes, tax policy	6.8	7.2	2.1	9.5	0.0
General U.S. business conditions	10.2	10.1	5.3	15.9	13.3
High interest rates	5.5	5.8	0.7	1.6	6.1
Costs of conducting business	4.0	4.0	5.8	5.3	1.6
Labor force problems	3.9	3.7	4.3	9.3	2.9
Profits, cash flow, expansion, sales	8.5	7.9	14.0	6.1	19.0
Number of observations (unweighted)	729	544	106	41	38

Source: See Table 5.1.

Acute credit availability problems for minorities have been reported in surveys other than the NSSBF. In the Census Bureau's 1992 Characteristics of Business Owners (CBO) Survey, for example, when owners were asked to identify the impact of various issues on their firm's profitability, 27.0 percent of African American-owned firms reporting an answer indicated that lack of financial capital had a strong negative impact—compared to only 17.3 percent among nonminority male-owned firms. Hispanic-owned firms and other minority-owned firms also

reported higher percentages than nonminority male-owned firms—21.3 percent and 19.7 percent, respectively. Further, owners who had recently discontinued their business because it was unsuccessful were asked in the CBO survey to identify the reasons why. African American-owned firms, and to a lesser degree Hispanic-owned firms, other minority-owned firms, and women-owned firms, were much more likely than nonminority male-owned firms to report that the reason was due to lack of access to business or personal loans or credit. For unsuccessful firms that were discontinued, 7.3 percent of firms owned by nonminority males reported it was due to lack of access to business loans or credit compared to 15.5 percent for firms owned by African Americans, 8.8 percent for Hispanics, 6.1 percent for Other minorities, and 9.3 percent for women. Another 2.7 percent of nonminority males said it was due to lack of personal loans or credit compared to 8.4 percent for firms owned by African Americans, 5.8 percent for Hispanics, 6.4 percent for Other minorities, and 3.3 percent for women.¹²¹

A later study published by the U.S. Chamber of Commerce (2005) is also consistent with these findings from the 1993 NSSBF and the 1992 CBO.¹²² The Chamber of Commerce survey was conducted in March and April 2005 and detailed the financing problems experienced by small business owners, 95 percent of whom had less than 100 employees. Over 1,000 business owners were interviewed. This survey showed that minority-owned businesses rely heavily on credit cards to fund their businesses; often do not apply for credit, even though they need it, for fear of being denied; and were especially likely to need working capital. In particular, as shown in Table 5.7, minority-owned firms report that availability of credit is their top problem. The biggest difference in responses between minorities and nonminority men and women was availability of credit: 19 percent of nonminority males report credit as their top problem compared with 54 percent for minority males. There was a 15 percentage point difference between minority women and nonminority women. In no other category is there more than an 11 percentage point difference for men or women.

¹²¹ Bureau of the Census (1997), Table 5a, p. 46, Table 1, p. 21.

¹²² Although the CBO is part of the Economic Census, it was not published in 1997. In 2002, the name was changed to the Survey of Business Owners (SBO). However, questions relating to the importance of access to financial loans and credit to business success were not included in SBO.

Table 5.7. Types of Problems Facing Your Business, by Race and Gender

	Non-minority Male	Non-minority Female	Minority Male	Minority Female	African American	Hispanic	Asian/Pacific Islander	Native American
Availability of credit	19	23	54	38	46	52	34	43
Rising health care costs	60	49	50	41	31	42	66	50
Excessive tax burden	49	46	48	42	46	34	51	50
Lack of qualified workers	37	28	33	17	22	20	34	14
Rising energy costs	37	35	36	35	29	34	44	29
Rising costs of materials	44	47	36	47	53	42	32	43
Legal reform	21	15	15	12	11	10	17	29
Number of firms	415	356	80	81	55	50	41	14

Source: U.S. Chamber of Commerce (2005), p. 55.

Note: Percentages may total to more than 100% because respondents had the option to select multiple choices.

In summary, African American-owned and Hispanic-owned firms in particular reported that they had problems with the availability of credit in the past and expected that such difficulties would continue into the future. Whether or not these perceptions reflect actual discrimination can be tested in the econometric analyses to follow.

E. Differences in Loan Denial Rates by Race, Ethnicity or Gender

Evidence presented to this point indicates that minority-owned firms are more likely to be denied loans and report that their lack of access to credit significantly impairs their business. Can these differences be explained by such things as differences in size, creditworthiness, location, or other factors as some have suggested in the literature on discrimination in mortgage lending (Horne, 1994; Bauer and Cromwell, 1994; and Yezer, Phillips, and Trost, 1994)? To address this question, we turn to an econometric examination of whether the loan requests made by minority-owned firms are more likely to be denied, holding constant important differences among firms.

In Table 5.8 and Table 5.9, we report the results from a series of loan denial Probit regressions of the form specified in Equation (1) using data from the 1993 NSSBF for the U.S. and the SATL

division.¹²³ As indicated earlier, the 1993-2003 datasets have the particular advantage that they include information that can be used to proxy an applicant's creditworthiness. We report estimates from these models that can be interpreted as changes or differences in loan denial probabilities depending on the type of variables considered. For indicator variables such as race, ethnicity and gender, estimates show differences in loan denial probabilities between the indicated group and the base group.¹²⁴ In Column (1) of Table 5.8 (in which the regression model contains only race and gender indicators), the estimated coefficient of 0.443 on the African American indicator indicates that the denial rate for African American-owned businesses is 44.3 percentage points higher than that for nonminority male-owned firms.¹²⁵

The remainder of Table 5.8 includes additional explanatory variables to hold constant differences in the characteristics of firms that may vary by race, ethnicity or gender.¹²⁶ In Column (2) a number of controls are included that distinguish the creditworthiness of the firm and the owner. Many are statistically significant on a two-tailed test at conventional levels of significance with the expected signs. For instance, having been bankrupt or had legal judgments against the firm or owner raises the probability of denial; stronger sales lower this probability. Even after controlling for these differences in creditworthiness, however, African American-owned firms remain 28.8 percentage points more likely than nonminority-owned firms to have their loan request denied.

The models reported in Columns (3) through (5) of Table 5.8 control for an array of additional characteristics of firms. Column (3) adds 39 additional characteristics of the firm and the loan application, including such factors as level of employment, change in employment, the size of the loan request, and the use of the loan. Column (4) includes variables to control for differences across regions of the country and major industry groups. Column (5) adds variables indicating the month and year in which the loan was requested and the type of financial institution to which

¹²³ Firms owned 50-50 by minorities and non-minorities are excluded from this and all subsequent analyses, as are nonminority firms owned 50-50 by women and men.

¹²⁴ For "continuous" variables, such as profits and sales, estimates can be thought of as changes in loan denial probability when the continuous variable changes by one unit. For example, in Column (2) of Table 5.8, the estimated coefficient of -0.003 on owner's years of experience indicates that one additional year of owner's experience is related to -0.3 percentage point reduction in loan denial rate.

¹²⁵ This estimate largely replicates the raw difference in denial rates between African American-owned and nonminority-owned businesses reported in Table 5.1. The raw differential observed there ($0.659 - 0.269 = 0.39$) differs slightly from the 0.443 differential reported here because this specification also controls for whether the business is owned by a White Female and because the regressions are unweighted whereas the descriptive statistics are weighted using the sample weights. When a full set of explanatory control variables are included, the unweighted estimates are insignificantly different from the weighted estimates, hence in Table 5.8 and subsequent tables we report only unweighted estimates.

¹²⁶ In preliminary analyses, these models were also estimated separately, focusing specifically on the differences in coefficient estimates between nonminorities and African Americans. The F-Test conducted to determine whether parameter estimates were the same for African Americans and nonminorities rejected this null hypothesis. Next, the estimates obtained by estimating the model separately by race were used to conduct an Oaxaca (1973) decomposition. The results from this analysis were similar to those obtained by restricting the coefficients to be the same between African Americans and nonminorities and using the coefficient on the African Americans indicator variable to measure the gap between groups. In this chapter, all the results are reported in this simpler format for ease of exposition and interpretation.

the firm applied.¹²⁷ In total, these three columns add 176 variables to the more parsimonious specification reported in Column (2).¹²⁸ Nevertheless, the estimated disadvantage experienced by African American-owned firms in obtaining credit remains large and statistically significant. The estimate from each of the three additional columns indicates that African American-owned firms are 24 percentage points more likely than nonminority male-owned firms to have their loan application denied even after controlling for the multitude of factors we have taken into consideration.

The results also indicate that Asians/Pacific Islanders had significantly higher denial rates than nonminority males—12 percentage points. There is little evidence in the 1993 national data, however, that denial rates for firms owned by Native Americans or Hispanics were significantly different from the denial rates of firms owned by nonminorities; or that denial rates for firms owned by nonminority women were significantly different from those for firms owned by nonminority men.¹²⁹

In Table 5.9, we see results for the SATL division similar to those reported in Table 5.8 for the nation as a whole. The table shows that the results of our loan denial model in the SATL are not substantially different from the nationwide results reported in Table 5.8. The indicator variable for the SATL division is insignificantly different from zero; as are the interaction terms between race/ethnicity/gender and the SATL region.¹³⁰

¹²⁷ Approximately four out of five (80.5%) of the firms who required a loan applied to a commercial bank. Overall, seventeen different types of financial institutions were tabulated, although only the following accounted for more than 1% of the (weighted) total: Finance Companies (4.9%); Savings Banks (2.5%); Savings & Loans (2.3%); Leasing Companies (2.1%); and Credit Unions (2.0%).

¹²⁸ One piece of information to which we did not have access in the 1993 NSSBF or the 1998 SSBF because of confidentiality concerns was each firm's credit rating. A paper by Cavalluzzo, Cavalluzzo and Wolken (2002) was able to incorporate Dun & Bradstreet credit ratings for each firm because the authors' connection to the Federal Reserve Board enabled them to access the confidential firm identifiers. They added these credit rating variables in a model comparable to that reported here and found the results insensitive to the inclusion. The 2003 SSBF includes Dun & Bradstreet credit ratings for each firm. Below, we discuss the impact of incorporating them into a model similar to that presented in Table 5.8 (see Tables 5.27 and 5.28).

¹²⁹ It would be a mistake to interpret a lack of statistical significance (as opposed to substantive significance) in any of the tables in Chapter V, or elsewhere in this Study, as a lack of adverse disparity. While tests for statistical significance are very useful for assessing whether chance can explain disparities that we observe, they do have important limitations. First, the fact that a disparity is not statistically significant does not mean that it *is* due to chance. It merely means that we cannot rule out chance. Second, there are circumstances under which tests for statistical significance are not helpful for distinguishing disparities due to chance from disparities due to other reasons (*e.g.*, discrimination). In the particular statistical application presented in this chapter, the chance that a test for statistical significance will incorrectly attribute to chance disparities that are due to discrimination becomes greater when relatively small sample sizes are present for an affected group. *See also* Appendix A, "Constitutional Significance," "Statistical Significance," and "Substantive Significance."

¹³⁰ The number of Native Americans in the SATL sample was too small to yield statistical results.

Table 5.8. Determinants of Loan Denial Rates—USA

	(1)	(2)	(3)	(4)	(5)
African American	0.443 (11.21)	0.288 (6.84)	0.237 (5.57)	0.235 (5.22)	0.241 (5.13)
Asian/Pacific Islander	0.225 (4.21)	0.171 (3.18)	0.140 (2.56)	0.121 (2.15)	0.119 (2.07)
Native American	-0.016 (0.11)	-0.141 (1.06)	-0.097 (0.71)	-0.052 (0.35)	-0.083 (0.56)
Hispanic	0.129 (2.62)	0.070 (1.42)	0.067 (1.36)	0.035 (0.70)	0.031 (0.63)
Nonminority female	0.088 (2.65)	0.048 (1.45)	0.047 (1.45)	0.036 (1.06)	0.033 (0.94)
Judgments		0.143 (2.84)	0.129 (2.56)	0.124 (2.40)	0.121 (2.29)
Firm delinquent		0.176 (6.50)	0.178 (6.43)	0.195 (6.77)	0.208 (7.00)
Personally delinquent		0.161 (4.45)	0.128 (3.56)	0.124 (3.38)	0.119 (3.17)
Bankrupt past 7 years		0.208 (3.11)	0.179 (2.68)	0.162 (2.37)	0.167 (2.33)
\$1992 profits (*10 ⁸)		-0.000 (0.89)	-0.000 (1.64)	-0.000 (1.78)	-0.000 (1.83)
\$1992 sales (*10 ⁸)		-0.000 (3.08)	-0.000 (3.38)	-0.000 (3.28)	-0.000 (3.38)
\$1992 assets (*10 ⁸)		0.000 (0.51)	0.000 (0.60)	0.000 (0.40)	0.000 (0.37)
\$1992 liabilities (*10 ⁸)		0.000 (0.61)	0.000 (1.11)	0.000 (1.04)	0.000 (1.17)
Owner years of experience		-0.003 (2.59)	-0.001 (1.30)	-0.002 (1.55)	-0.002 (1.72)
Owner share of business		0.001 (1.91)	0.000 (0.71)	0.000 (0.26)	0.000 (0.30)
Owner Education (5 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (13 variables)	No	No	Yes	Yes	Yes
Geographic Division (8 indicator variables)	No	No	No	Yes	Yes
Industry (60 indicator variables)	No	No	No	Yes	Yes
Month/Year of Application (51 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (16 indicator vars.)	No	No	No	No	Yes
N	2,007	2,007	2,006	1,985	1,973
Pseudo R ²	.0608	.1412	.2276	.2539	.2725
Chi ²	143.6	333.4	537.3	595.4	635.8
Log likelihood	-1108.8	-1013.8	-911.6	-874.8	-848.7

Source: See Table 5.1.

Notes: (1) Reported estimates are derivatives from Probit models, t-statistics are in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) “Other firm characteristics” include variables indicating whether the firm had a line of credit, 1990 employment, firm age, metropolitan area, a new firm since 1990, legal form of organization (sole proprietorship, partnership, S-corporation, or C-corporation), 1990-1992 employment change, existing long run relation with lender, geographic scope of market (local, regional, national or international), the value of the firm’s inventory, the level of wages and salaries paid to workers, the firm’s cash holdings, and the value of land held by the firm. (3) “Characteristics of the loan” include the size of the loan applied for, a variable indicating whether the loan was backed by real estate, and twelve variables indicating the intended use of the loan.

Table 5.9. Determinants of Loan Denial Rates—SATL Division

	(1)	(2)	(3)	(4)	(5)
African American	0.452 (9.85)	0.289 (5.94)	0.239 (4.88)	0.235 (4.61)	0.252 (4.72)
Asian/Pacific Islander	0.223 (3.98)	0.180 (3.19)	0.142 (2.51)	0.123 (2.11)	0.125 (2.11)
Native American	0.007 (0.05)	-0.132 (0.94)	-0.094 (0.67)	-0.047 (0.31)	-0.079 (0.52)
Hispanic	0.104 (1.91)	0.047 (0.88)	0.051 (0.95)	0.021 (0.40)	0.014 (0.25)
Nonminority female	0.089 (2.45)	0.055 (1.51)	0.060 (1.65)	0.044 (1.18)	0.042 (1.10)
African American*SATL	-0.027 (0.35)	-0.009 (0.11)	-0.013 (0.16)	0.002 (0.02)	-0.030 (0.39)
Asian/Pacific Islander*SATL	0.011 (0.06)	-0.069 (0.44)	-0.011 (0.06)	-0.018 (0.10)	-0.052 (0.31)
Native American*SATL					
Hispanic*SATL	0.114 (0.94)	0.107 (0.85)	0.079 (0.61)	0.073 (0.56)	0.095 (0.71)
Nonminority female*SATL	-0.006 (0.07)	-0.035 (0.43)	-0.062 (0.80)	-0.042 (0.51)	-0.050 (0.61)
SATL division	-0.009 (0.270)	0.012 (0.34)	0.015 (0.43)	0.042 (0.98)	0.046 (1.07)
Creditworthiness Controls (4 variables)	No	Yes	Yes	Yes	Yes
Owner Education (5 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (13 variables)	No	No	Yes	Yes	Yes
Geographic Division (7 indicator variables)	No	No	No	Yes	Yes
Industry (60 indicator variables)	No	No	No	Yes	Yes
Month/Year of Application (51 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (16 indicator vars.)	No	No	No	No	Yes
N	2006	2,006	2,005	1,984	1,972
Pseudo R ²	.0612	.1416	.2280	.2540	.2728
Chi ²	144.54	334.27	537.91	595.43	636.45
Log likelihood	-1107.9	-1013.1	-910.9	-874.4	-848.1

Source: See Table 5.1.

Notes: See Table 5.8. Creditworthiness controls are those used in Table 5.8 above.

Although the results provided so far strongly indicate that financial institutions treat African American-owned and nonminority male-owned small businesses differently in lending, other considerations may limit our ability to interpret this finding as discrimination. Of perhaps greatest concern is the possibility that we may not have adequately controlled for differences in the creditworthiness of firms. If African American-owned firms are less creditworthy and we have failed to sufficiently capture those differences, then we would be inadvertently attributing the racial difference in loan denial rates to discrimination. On the other hand, if financial institutions discriminate against African American-owned firms, then the greater likelihood of denial for African Americans in earlier years is likely to hurt the performance of these firms and appear to make them look less creditworthy. Therefore, controlling for creditworthiness will likely understate the presence of discrimination.

As a check on the foregoing results, therefore, our first approach was to identify the types of information that financial institutions collect in order to evaluate a loan application and compare that with the information available to us in the NSSBF. First, a selection of small business loan applications was collected from various banks. An Internet search of web sites that provide general business advice to small firms was also conducted. Such sites typically include descriptions of the loan application process and list the kinds of information typically requested of applicants.¹³¹

Bank loan applications typically request detailed information about both the firm and its owner(s). Regarding the firm, banks typically request information on: (a) type of business, (b) years in business, (c) number of full-time employees, (d) annual sales, (e) organization type (corporation or proprietorship), (f) owner share(s), (g) assets and liabilities, (h) whether the business is a party to any lawsuit, and (i) whether any back taxes are owed. Regarding the owner's personal finances, banks typically ask for: (a) assets and liabilities, (b) sources and levels of income, and (c) whether the owner has any contingent liabilities. Some applications ask explicitly if the firm qualifies as a minority-owned enterprise for the purposes of certain government loan guarantee programs. The race of the applicant, however, would be readily identifiable even in the absence of such a question since most of these loans would be originated through face-to-face contact with a representative of the financial institution.

These criteria seem to match quite closely the information available in the 1993 NSSBF. The particular strength of the NSSBF is the detail available on the firm, which covers much of the information typically requested on loan application forms. The only shortcoming that we have identified in the 1993 NSSBF data is that less detail is available on the finances of the owner of the firm, as opposed to the firm itself.¹³² Although our creditworthiness measures enable us to identify those owners who have had serious financial problems (like being delinquent on personal obligations), we have no direct information regarding the owner's assets, liabilities, and income (as opposed to those of the firm). These factors would be necessary to identify whether the business owner has sufficient personal resources to draw upon should the business encounter

¹³¹ An example of a typical application form is presented as Appendix B in Blanchflower, Levine, and Zimmerman (2003).

¹³² This is remedied in the 1998 SSBF and the 2003 SSBF, discussed below, both of which contain information on the owner's home equity, and personal net worth excluding home equity and business equity.

difficulties and to determine the personal collateral available should the firm default on its obligation. We do have measures of the owner's human capital in the form of education and experience, which likely capture at least some of the differential in available personal wealth across firm owners. Nevertheless, our potentially incomplete characterization of the business owner's personal financial condition in the 1993 NSSBF dataset may introduce a bias into our analysis if African American business owners have fewer resources than nonminority business owners. As we will see below, however, and as noted in the previous footnote, this deficiency is rectified in the 1998 and 2003 SSBF datasets, with little change in the main findings.

To assess the potential impact of this problem on our results, we separately examined groups of firms who differ in the degree to which personal finances should influence the loan decision and compare the estimated disadvantage experienced by African American-owned firms in different groups. First, we examine proprietorships and partnerships separately from corporations since owners of incorporated businesses are at least somewhat shielded from incurring the costs of a failed business. Second, we divide firms according to size.¹³³ Both larger small businesses and those that have been in existence for some time are more likely to rely on the business's funds, rather than the owner's, to repay its obligations. Third, we consider firms that have applied for loans to obtain working capital separately from those firms that seek funds for other purposes (mainly to purchase vehicles, machinery and equipment, and buildings or land). Loans made for one of these other purposes are at least partially collateralized because the financial institution could sell them, albeit at a potentially somewhat reduced rate, should the small business default.¹³⁴

Results from these analyses provide no indication that omitting the owner's personal wealth substantially biases the results presented above in Tables 5.8 and 5.9. Estimates presented in row numbers 1 through 8 of Table 5.10 indicate that African American-owned small businesses are significantly more likely to have their loan applications rejected regardless of the category of firm considered. In particular, when samples are restricted to corporations, larger firms, and firms seeking credit for uses other than working capital, African American-owned firms are 18, 25, and 16 percentage points more likely, respectively, to have their loan application rejected even though personal resources should be less important in these categories. Moreover, in each group where there are two types of firms (large and small, etc.), the estimates for the two types of firms are not significantly different from each other.

¹³³ As reported earlier, the mean and median size of firms is 5.5 and 31.6 full-time equivalent workers, respectively. Fourteen percent of firms have one or fewer employees and 27 percent have two or fewer employees. In the SATL, the mean and median size of firms is 6.0 and 34.3 full-time equivalent workers, respectively. Twelve percent of firms have one or fewer employees and 26 percent have two or fewer employees.

¹³⁴ As indicated earlier, greater personal wealth may improve a small business's chances of obtaining credit because it provides collateral should the loan go bad and because wealthy owners can use their own resources to weather bad times, improving the likelihood of repayment. Our separate analysis of corporations and proprietorships and of large and small firms does not account for this second reason because corporations and large businesses may still need to draw on the owner's personal wealth to help it survive short-term shocks. Businesses that have been in existence for several years, however, are less likely to experience these shocks, making them less likely to require infusions from the owner's personal wealth. A loan used to purchase equipment that can be sold if the firm defaults similarly insulates the bank from the need to seek repayment directly from the owner.

Another issue is whether the racial differences in loan denial rates among firms with similar characteristics can be attributable to differences in the geographic location of African American- and nonminority-owned firms. If, for example, African American-owned firms are more likely to be located in the central city, and a central city location is negatively correlated with profitability and the ability to repay debt, then financial institutions may be acting optimally in rejecting the loan applications of African American-owned firms at a higher rate. As indicated earlier, this type of behavior is labeled “statistical discrimination.” In the subsequent text and tables, we present a limited analysis to address whether or not this type of behavior takes place.¹³⁵

To identify whether lenders’ behavior is consistent with this hypothesis, we distinguish those firms that self-classified their sales market as being local rather than regional, national, or international. A central city location should have a greater impact on future profit expectations for those firms that operate on a local level. If minority-owned firms are more likely to locate in the central city, racial differences in loan approval rates should be greater in the firms that sell in the local market area. The results of this test, reported in row numbers 9 and 10 of Table 5.10, reject the hypothesis that differences in loan denial rates are attributable to different propensities to locate in the center of a city. Estimates indicate that African American-owned firms that sell to the local market are 11 percentage points more likely to have their loan applications denied compared to a 20 percent excess denial rate for firms selling primarily to regional, national, or international markets. In the SATL, however, the figures are reversed, indicating that statistical discrimination may in fact be occurring in this region.

¹³⁵ A strong test to distinguish between statistical discrimination and “Becker-Type” discrimination (referring to the standard economic model of discrimination first expounded by University of Chicago economist Gary Becker) would require a tremendous amount of detail about the specific location of the firm, characteristics of its surrounding area, characteristics of neighboring firms, and the like, which were unavailable to us. As indicated earlier, both forms of discrimination are illegal and this chapter applies a definition that incorporates both.

Table 5.10. Alternative Models of Loan Denials

Specification	African American	African American* SATL	Asian/Pacific Islander	Hispanic	Non-minority Female	Sample Size
All	0.222 (4.76)	0.080 (0.85)	0.080 (1.37)	0.055 (0.97)	0.044 (1.25)	2,006
<i>Organization Type</i>						
1) Proprietorships and Partnerships	0.278 (3.03)	0.039 (0.24)	0.177 (1.51)	-0.021 (0.21)	-0.020 (0.29)	536
2) Corporations	0.181 (3.36)	0.175 (1.17)	0.050 (0.73)	0.092 (1.25)	0.069 (1.66)	1,457
<i>Age of Firm</i>						
3) 12 Years or Under	0.243 (3.80)	0.117 (1.02)	0.150 (1.41)	-0.001 (0.01)	0.029 (0.56)	1,074
4) Over 12 Years	0.180 (2.56)	-0.006 (0.54)	0.068 (0.08)	0.114 (1.39)	0.087 (1.69)	926
<i>1993 Firm Size</i>						
5) Fewer than 10 Employees	0.193 (2.97)	0.078 (1.71)	0.251 (0.92)	-0.019 (0.24)	-0.018 (0.34)	868
6) 10 or More Employees	0.245 (3.39)	0.077 (0.65)	-0.082 (0.85)	0.145 (1.61)	0.111 (2.18)	1,132
<i>Intended Use of Loan</i>						
7) Working Capital	0.241 (4.21)	0.176 (1.22)	0.035 (0.47)	0.039 (0.51)	0.041 (0.85)	1,086
8) Other Use	0.158 (1.93)	0.037 (0.27)	0.167 (1.74)	0.081 (0.94)	0.045 (0.87)	917
<i>Scope of Sales Market</i>						
9) Local	0.108 (1.50)	0.348 (2.06)	0.097 (1.26)	0.007 (0.10)	0.041 (0.78)	875
10) Regional, National, or International	0.199 (4.94)	-0.013 (0.24)	0.031 (0.65)	0.071 (1.34)	0.031 (1.19)	1,129
<i>Creditworthiness</i>						
11) No Past Problems	0.244 (4.08)	-0.005 (0.05)	0.113 (1.92)	0.039 (0.71)	0.071 (2.06)	1,386
12) One Past Problem	0.282 (2.53)	-0.072 (0.36)	-0.092 (0.53)	0.181 (1.10)	0.038 (0.37)	376
13) More Than One Problem	0.273 (2.55)	0.080 (0.85)	0.180 (0.67)	0.257 (1.70)	-0.018 (0.09)	231

Source: See Table 5.1.

Notes: (1) Reported estimates are derivatives from Probit models, t-statistics are in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Each line of this table represents a separate regression with the same control variables as Column 3 of Table 5.8. (3) The dependent variable in all specifications represents an indicator for whether or not a loan application was denied. (4) Control for SATL also included.

We also estimate models that address a potential weakness in the specific functional form with which we control for differences in credit history across firms. As shown in Tables 5.1 and 5.2, African American-owned firms are considerably more likely to have had troubles in the past in the form of judgments against them, late payments by the firm or its owner, or past bankruptcies. The model specifications reported in Tables 5.8 and 5.9 implicitly assume that these past problems are additive in their effect on loan denials and one might suspect the marginal impact would rise as past problems rise. Therefore, in the final three rows of Table 5.10, we separated firms by the number of past problems experienced. In Rows 11 through 13, we restricted the sample to those firms that have never had any past credit problems, those firms that reported one problem only, and those firms that reported more than one of these problems, respectively. The results indicate that even African American-owned firms with clean credit histories are at a significant disadvantage in getting their loans approved, holding constant their other characteristics. In fact, the estimated differential in loan approval rates between African American- and nonminority-owned firms is statistically indistinguishable within each of these groups. Asian/Pacific Islander-owned firms and nonminority female-owned firms with clean credit histories, are also at a significant disadvantage relative to nonminority-male owned firms.

Finally, we considered whether African American-owned firms are treated differently from nonminority-owned firms when requesting credit from other sources. The source of credit we examined is credit cards. Such an analysis provides a unique advantage because credit card applications are more likely to be filled out and mailed in, so it is more likely that the race of the applicant is unknown to the financial institution, at least in the case of African American-owned firms and Native American-owned firms, where surname is unlikely to provide any signal about minority status. On the other hand, for Asian/Pacific Islander and Hispanic applicants, it is possible that surname does provide such a signal, albeit a somewhat noisy one. The 1993 NSSBF asked respondents whether they used either a business or personal credit card for business purposes. Although our analysis of use of credit cards does not condition on application, a finding that African American- and nonminority-owned small businesses are equally likely to use credit cards may still provide evidence supporting discrimination in small-business lending. In fact, if financial institutions discriminate against African Americans in providing small business loans, we may even expect to see African Americans use credit cards more often than nonminorities since they have fewer alternatives. Even though many institutions may offer both types of credit, they may only be aware of the race of the applicant in a small business loan.¹³⁶

In Tables 5.11 and 5.12, we examine the probability that a firm uses either a business credit card (Row 1) or a personal credit card (Row 2) to finance business expenses holding constant other differences across firms.¹³⁷ There is no evidence, either for the U.S. as a whole or for the SATL,

¹³⁶ It appears that race may also rarely be known to those institutions that issue credit ratings. As we mentioned above, Cavalluzzo, Cavalluzzo and Wolken (2002) show that Dun & Bradstreet Credit Ratings are not helpful in explaining racial disparities in loan denials. Although we are not privy to Dun & Bradstreet's methodology for establishing its credit ratings, we do know from long experience that the good indicators of ownership by race are sometimes lacking in Dun & Bradstreet's master business identifier file. Indeed, this is the reason why NERA's availability estimation methodology requires us to create a master directory of minority- and women-owned businesses for merging with Dun & Bradstreet's data.

¹³⁷ On average, 29 percent of all firms use business credit cards and 41 percent use personal credit cards for business use; these levels vary only modestly by race and ethnicity. In the SATL division, the figures are 29 percent and 36 percent, respectively.

that African American-owned firms are less likely to access either business or personal credit cards for business expenses. On the other hand, there is evidence in the SATL and in the nation as a whole that Asian- and Pacific Islander-owned firms are less likely to access business credit cards.

Table 5.11. Models of Credit Card Use–USA

Specification	African American	Asian/Pacific Islander	Native American	Hispanic	Non-minority Female	Sample Size
1) Business Credit Card	0.035 (1.35)	-0.096 (3.23)	0.085 (1.00)	0.024 (0.79)	0.018 (0.83)	4,633
2) Personal Credit Card	0.019 (0.74)	-0.019 (0.63)	0.019 (0.23)	-0.042 (1.40)	0.028 (1.28)	4,633

Source: See Table 5.1.

Notes: (1) Reported estimates are derivatives from Probit models, t-statistics are in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Each line of this table represents a separate regression with the same control variables as Column 3 of Table 5.8 but excluding the loan characteristics. (3) The dependent variable indicates whether the firm used business or personal credit cards to finance business expenses. (4) In all specifications, the sample size is all firms. (5) Other races are excluded due to sample size limitations.

Table 5.12. Models of Credit Card Use–SATL

Specification	African American	Asian/Pacific Islander	Native American	Hispanic	Non-minority Female	Sample Size
1) Business Credit Card	0.028 (0.96)	-0.087 (2.78)	0.098 (1.07)	0.028 (0.83)	0.009 (0.37)	4,633
2) Personal Credit Card	-0.014 (0.48)	-0.034 (1.08)	0.024 (0.26)	-0.029 (0.87)	0.028 (1.17)	4,633

Source: See Table 5.1.

Notes: See Table 5.11. Control for SATL included.

F. Differences in Interest Rates Charged on Approved Loans

Although most of our analysis has addressed whether minority- and nonminority-owned firms are treated equally in terms of their probability of loan denial, another way that differential treatment may emerge is through the interest rate charged for approved loans. Discrimination may be apparent if banks approve loans to equally creditworthy minority- and nonminority-owned firms, but charge the minority-owned firms a higher interest rate. Therefore, we estimated model specifications analogous to those reported previously for loan denials, but now the dependent variable represents the interest rate charged for firms whose loans were approved and the set of explanatory variables includes characteristics of the loan. More formally, the model we estimated takes the form:

$$(2) \quad I_i = \beta_0 + \beta_1 CW_i + \beta_2 X_i + \beta_3 R_i + \beta_4 LC_i + \varepsilon_i,$$

where I represents the interest rate charged on the loan, LC represents characteristics of the loan (See Table 5.8 notes for a full list of the variables included in this set), ε_i is a term capturing random factors, and all other notations are the same as in equation (1).

An important consideration is whether the interest rate may be treated as exogenous, as our reduced form model assumes. In the context of small business loans, in which it is possible that the loan terms may be negotiated in the determination process, this assumption may not be valid. As such, a model that simultaneously estimates the interest rate and the loan decision might be appropriate, except that the interest rate that would be charged to firms whose loans were denied is not available in our data. Alternatively, one could estimate an interest rate model alone for those firms whose loan was approved, adjusting for the potential bias brought about by sample selection. To properly identify such a model, however, a variable is required that is linked to the loan denial decision, but unrelated to the level of interest charged on approved loans; no such variable exists in the data.

Nevertheless, one would expect these considerations to impose a downward bias on the estimated differential in interest rates charged on loans to African American-owned firms. Those firms whose loans were rejected would have been charged higher interest rates than those approved. Since African American-owned businesses were considerably more likely to be rejected holding constant differences in creditworthiness, one would expect any differential in interest rate to be even greater if those firms were included in the sample. We overlook this implication in the results reported below, but its impact should be kept in mind.

The results obtained from estimating equation (2) are reported in Row 1 of Table 5.13, which includes the complete set of control variables comparable to those in Column 5 of Table 5.8. Estimates indicated that African American-owned firms pay rates of interest that are roughly one percent (100 basis points) higher than similarly situated nonminority-owned firms. Row 2 shows that even African American-owned firms with good credit histories are charged higher interest rates relative to nonminority-owned firms.¹³⁸

The remainder of the table presents similar specification checks to those reported in Table 5.10. Recall that most of these models identify firms for which the firm's own history is likely to be a more important contributor to its creditworthiness. The specifications by sales market are designed to distinguish the impact of central city location. Unfortunately, sample sizes are smaller in these specifications and reduce the power of the analysis. Nevertheless, we still find that regardless of organization type and firm age, African American-owned firms face statistically significantly higher interest rates. Overall, the evidence presented indicates that African Americans, and to a lesser extent Hispanics and Asians/Pacific Islanders, do face disadvantages in the market for small business credit that does not appear to be attributable to differences in geography or creditworthiness.

¹³⁸ Estimates from firms that have had past credit problems are not presented since the higher likelihood of their being denied credit restricts the size of the sample and limits the ability to provide a powerful test of the interest rates charged if they are approved.

Table 5.13. Models of Interest Rate Charged—USA

Specification	African American	Asian/Pacific Islander	Native American	Hispanic	Non-minority Female	Sample Size
1) All loans (controls as in Column 5, Table 5.8)	1.034 (3.72)	0.413 (1.37)	-0.427 (0.63)	0.517 (1.97)	0.025 (0.14)	1,454
<i>Creditworthiness</i>						
2) No credit problems	1.187 (3.27)	0.485 (1.33)	0.910 (1.07)	0.435 (1.48)	0.129 (0.66)	1,137
<i>Organization Type</i>						
3) Proprietorships and Partnerships	1.735 (2.57)	0.826 (1.03)	2.589 (0.90)	1.008 (1.74)	-0.239 (0.53)	364
4) Corporations	0.660 (2.04)	0.359 (1.07)	-0.585 (0.86)	0.491 (1.53)	0.127 (0.66)	1,090
<i>1993 Firm Size</i>						
5) Fewer than 10 Employees	1.200 (2.58)	-0.247 (0.41)	-0.010 (0.01)	0.783 (1.75)	-0.311 (1.02)	574
6) 10 or More Employees	0.450 (1.15)	0.446 (1.21)	-0.197 (0.25)	0.515 (1.37)	0.164 (0.77)	880
<i>Scope of Sales Market</i>						
7) Local	0.751 (1.55)	-0.073 (0.13)	1.773 (1.12)	0.805 (2.05)	0.324 (1.08)	633
8) Regional, National, or International	1.544 (4.26)	1.185 (2.93)	-1.368 (1.85)	0.392 (0.96)	-0.163 (0.73)	821

Source: See Table 5.1.

Notes: (1) Reported estimates are Ordinary Least Squares (OLS) coefficients, t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Each line of this table represents a separate regression with all of the control variables as Column 5 of Table 5.8 (except where specified) as well as: an indicator variable for whether the loan request was for a fixed interest rate loan, the length of the loan, the size of the loan, whether the loan was guaranteed, whether the loan was secured by collateral, and 7 variables identifying the type of collateral used if the loan was secured. (3) The sample consists of firms that had applied for a loan and had their application approved. (4) “No credit problems” means that neither the firm nor the owner had been delinquent on payments over 60 days, no judgments against the owner for the preceding 3 years, and the owner had not been bankrupt in the preceding 7 years.

Table 5.14 shows results for the SATL. Findings are similar to those observed for the nation as a whole.

Table 5.14. Models of Interest Rate Charged—SATL

Specification	African American	African American * SATL	Asian/Pacific Islander	Native American	Hispanic	Non-minority Female	Sample Size
1) All loans (controls as in Column 5, Table 5.8)	0.974 (3.02)	0.206 (0.35)	0.528 (1.69)	-0.959 (1.32)	0.211 (0.73)	-0.017 (0.09)	1,454
<i>Creditworthiness</i>							
2) No credit problems	0.928 (2.20)	0.927 (1.18)	0.512 (1.39)	0.227 (0.24)	0.008 (0.03)	0.068 (0.32)	1,137
<i>Organization Type</i>							
3) Proprietorships and Partnerships	1.338 (1.93)	6.556 (2.23)	0.772 (0.94)	2.284 (0.80)	0.979 (1.69)	-0.391 (0.83)	364
4) Corporations	0.716 (1.76)	-0.119 (0.19)	0.399 (1.16)	-1.193 (1.63)	0.027 (0.07)	0.107 (0.50)	1,090
<i>1993 Firm Size</i>							
5) Fewer than 10 Employees	1.076 (2.10)	0.746 (0.64)	0.048 (0.08)	-1.371 (0.92)	0.458 (0.97)	-0.488 (1.45)	574
6) 10 or More Employees	0.369 (0.69)	0.152 (0.20)	0.454 (1.23)	-0.200 (0.25)	0.535 (1.23)	0.200 (0.87)	880
<i>Scope of Sales Market</i>							
7) Local	1.154 (2.10)	-1.663 (1.52)	0.189 (0.33)	-1.081 (0.48)	0.541 (1.29)	0.346 (1.06)	633
8) Regional, National, or International	1.227 (2.79)	0.943 (1.27)	1.153 (2.82)	-1.403 (1.90)	0.003 (0.01)	-0.132 (0.54)	821

Source: See Table 5.1.

Notes: See Table 5.13.

G. Loan Approval Rates and Access to Credit

The results presented so far may be biased toward finding too small a disparity between nonminority- and African American-owned firms because those minority-owned firms that actually apply for credit may represent a selected sample of the most creditworthy. More marginal minority-owned firms whose loans may have been accepted had they been owned by nonminorities may not even be among the pool of loan applicants. First, these firms may have gone out of business or may not have had the opportunity to commence operations because of their inability to obtain capital. Second, some existing firms may have chosen not to apply for credit because they were afraid their application would be rejected due to prejudice.

Although we have no direct evidence regarding the first proposition, data from the 1993 NSSBF provide some evidence for the second: African American- and Hispanic-owned firms are much more likely to report that they did not apply for a loan, even though they needed credit, because

they thought they would be rejected. Table 5.15 reports estimates from Probit models in which the dependent variable is an indicator variable representing failure to apply for a loan fearing denial for all firms. The first row presents racial differences without controlling for any other characteristics of firms, and the results indicate that African American- and Hispanic-owned firms are 41 and 24 percentage points more likely than nonminority-owned firms to withhold an application fearing denial.

Of course, some of this difference may be attributable to differences in creditworthiness across firms since firms that are bad credit risks should be afraid that their loan would be denied. To adjust for this, the second row of Table 5.15 reports comparable models that control for differences in creditworthiness and other characteristics of firms. The results from this specification show that the greater fear of rejection among African American- and Hispanic-owned firms can partially be explained by these differences. Nevertheless, a gap of 26, 5, and 16 percentage points still exists for African American-owned, Asian/Pacific Islander-owned and Hispanic-owned firms relative to nonminority-owned firms with similar characteristics. In fact, when asked directly why they were afraid to apply for loans, African American-owned firms and Hispanic-owned firms were far more likely to report prejudice as the reason (19 percent and 8 percent, respectively, compared to less than 3 percent for nonminority-owned firms).¹³⁹ Results obtained in section (b) of Table 5.15 for the SATL division are very similar to those found for the nation as a whole. As section (c) of Table 5.15 shows, African American-owned firms in construction also appear to be fearful of applying because of the possibility of their application being turned down.¹⁴⁰

If these minority-owned firms had applied for credit and were rejected because of discrimination, estimates of racial disparities based only upon loan applicants (as in Tables 5.8 and 5.9) would be understated. The perception of prejudice among these firms, however, does not necessarily imply that selection bias is present. Those firms that failed to apply because they feared rejection may have had similar loan denial rates as other minority-owned firms with comparable levels of creditworthiness that did apply. If those firms chose to apply for a loan, differences by race in the combined denial rate of the actual and potential applicants would be the same as what we have estimated for the observed sample of applicants.

More formally, suppose that loan denial rates for equally creditworthy nonminority- and minority-owned firms that applied for credit are θ^W and θ^M , respectively; the measure of discrimination employed in the previous analysis is $\theta^M - \theta^W$. Now suppose that firms that are equally creditworthy, but chose not to apply for a loan because they feared rejection, would have been denied at the rates θ^W and ψ^M for nonminority- and minority-owned firms, respectively. Among the nonminority-owned firms, the denial rate is identical regardless of whether the firm chose to apply or not, conditional upon creditworthiness. Among minority-owned firms, however, those who were afraid to apply may have been denied at a higher rate (perhaps because of their greater propensity to locate in the central city or other factors that are related to their race, but unrelated to creditworthiness) compared with other minority-owned firms. Then the

¹³⁹ Other reasons given, including “too little collateral,” “poor credit history,” and “poor balance sheet,” are comparable across groups. Firms could report more than one reason.

¹⁴⁰ It was not possible to report separate construction results in earlier tables because of small sample sizes.

correct representation of the disadvantage faced by minority-owned firms is $[\eta\theta^m + (1-\eta)\psi^m] - \theta^w$, where η represents the share of minority-owned firms desiring credit that submitted an application. Our earlier findings are biased if θ^m is not equal to ψ^m .

Table 5.15. Racial Differences in Failing to Apply for Loans Fearing Denial

Specification	African American	Asian/Pacific Islander	Native American	Hispanic	Non-minority Female
a) USA					
No Other Control Variables (n=4,637)	0.405 (16.65)	0.099 (3.61)	0.134 (1.72)	0.235 (8.28)	0.031 (1.54)
Full Set of Control Variables (same as Table 5.8, Column 3 except for loan characteristics) (n=4,633)	0.257 (10.02)	0.054 (1.98)	0.019 (0.27)	0.164 (5.69)	-0.008 (0.38)
b) SATL					
No Other Control Variables, except for SATL dummy and race*SATL interactions (n=4,637)	0.405 (14.53)	0.096 (3.27)	0.154 (1.83)	0.241 (7.77)	0.037 (1.67)
Full Set of Control Variables (same as Table 5.8, Column 3 except for loan characteristics) (n=4,633)	0.248 (8.52)	0.054 (1.85)	0.069 (0.85)	0.168 (5.35)	-0.002 (0.07)
c) Construction					
No Other Control Variables (n=781)	0.350 (6.74)	0.109 (1.27)	-0.087 (0.54)	0.150 (2.22)	-0.007 (0.12)
Full Set of Control Variables (same as Table 5.8, Column 3 except for loan characteristics) (n=781)	0.181 (3.67)	0.064 (0.78)	-0.132 (1.00)	0.039 (0.65)	-0.063 (1.32)

Source: See Table 5.1.

Notes: (1) Reported estimates are Probit derivatives, t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Sample consists of all firms. (3) Dependent variable equals one if the firm said they did not apply for a loan fearing denial, zero otherwise.

One approach that is frequently employed to address such a problem is to estimate a “Heckman-correction” that would formally model the application process in conjunction with the loan outcome for those who applied. The difficulty with this methodology in the present context is that it is only correctly implemented when some variable is present that is correlated with a firm’s decision to apply for a loan, but is independent of the financial institution’s decision to approve or deny the request. Unfortunately, the NSSBF data do not appear to contain any variables that would satisfy these conditions, so we are unable to implement this methodology.¹⁴¹

¹⁴¹ The only variable that potentially could meet these conditions in the NSSBF data is the distance between a firm and the nearest financial institution. If greater distance reduced a firm’s information regarding the availability of funds, it might be related to the decision to apply for a loan. On the other hand, the creditworthiness of the firm should be independent of its location and should be unlikely to enter into the approval process. Unfortunately, we did not find a direct relationship between distance to the nearest financial institution and the probability of applying for a loan. This may be due to the fact that few firms are located more than a very short distance from the nearest financial institution.

As an alternative that answers a different, but related, question, we consider the ability of firms to get credit among those who desired it, regardless of whether or not they applied. This amounts to analyzing access to credit rather than loan approval and includes in the denominator those firms that needed credit but did not apply because they feared rejection. If differences by race in this rate among all firms who needed credit are greater than differences by race in the rate of denial among loan applicants, then this would indicate that African American- and other minority-owned firms have even less access to credit than an analysis of loan applicants would indicate.

To test this proposition, we estimate a regression model comparable to the one reported in Table 5.10 for the sample of firms that applied for a loan, except that this analysis considers all firms seeking credit and treats those who did not apply for fear of rejection as denials. The sample excludes firms that did not need additional credit in the preceding three years. The results, reported in Table 5.16, are consistent with the previous analysis; we find that selection is not much of an issue for African American-owned firms nationally, Asian/Pacific Islander-owned firms nationally, or in the SATL division. Regardless of whether we consider denial rates among applicants or denial rates among firms that desired additional credit, African American-owned firms are 20-30 percentage points less likely to obtain credit once control variables are included and even higher than that when they are not. For Hispanic-owned firms, however, some selection bias is evident. Among the pool of loan applicants, Hispanic-owned firms are not statistically significantly more likely to be denied than other firms with the same characteristics (*See, e.g.*, Table 5.8, Column 5). Among the pool of firms seeking additional credit, however, Hispanic-owned firms are 17 percentage points more likely to be denied access to credit, and 16 percentage points more likely in the SATL, and these differences are statistically significant.

Table 5.16. Models of Failure to Obtain Credit Among Firms that Desired Additional Credit

Specification	African American	Asian/Pacific Islander	Native American	Hispanic	Non-minority Female
a) USA					
No Other Control Variables (n=2,647)	0.455 (14.84)	0.298 (6.82)	0.188 (1.57)	0.297 (7.76)	0.126 (4.01)
Full Set of Control Variables (same as Table 5.8, Column 3 except for loan characteristics) (n=2,644)	0.276 (6.93)	0.180 (3.42)	-0.008 (0.06)	0.165 (3.51)	0.049 (1.38)
b) SATL					
No Other Control Variables (n=2,647)	0.461 (13.02)	0.288 (6.19)	0.191 (1.49)	0.299 (7.13)	0.142 (4.19)
Full Set of Control Variables (same as Table 5.8, Column 3 except for loan characteristics) (n=2,644)	0.268 (5.85)	0.175 (3.16)	-0.018 (0.12)	0.159 (3.10)	0.083 (2.15)

Source: *See* Table 5.1.

Notes: (1) Reported estimates are Probit derivatives, t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) The sample consists of all firms that applied for loans along with those who needed credit, but did not apply for fear of refusal. (3) Failure to obtain credit includes those firms that were denied and those that did not apply for fear of refusal. (4) Dependent variable is set to one if the firm failed to obtain credit and to zero if the firm applied for credit and had their loan application approved.

H. Analysis of Credit Market Discrimination in the U.S. in 1998

We turn next to an examination of the extent to which discrimination in the credit market has changed since 1993 using data from the 1998 SSBF conducted by the Board of Governors of the Federal Reserve System.¹⁴² This section updates the estimates obtained above using the 1993 NSSBF. Two complications are that the overall sample size is smaller and a number of the questions have been changed. However, the result is still clear—African American-owned firms face discrimination in the credit market. In addition, there is evidence of discrimination in the credit market against other minority-owned firms as well. We present four sections of evidence, all of which are consistent with our findings from the 1993 survey.

1. Qualitative Evidence

Consistent with the 1993 survey, African American-owned firms in the 1998 survey report that the biggest problem their firm currently faces is “financing and interest rates.” (Table 5.17). In the 1993 survey, respondents were asked to report problems in the preceding 12 months (Tables 5.3 and 5.4) and over the next 12 months (Tables 5.5 and 5.6). Interestingly, even though credit availability was by far the most important category for African Americans (21 percent in Table 5.5), interest rates were relatively unimportant (2 percent). The 1998 SSBF, however, did not report separate categories.

¹⁴² The target population of the survey was for-profit businesses with fewer than 500 employees that were either a single establishment or the headquarters of a multiple establishment company, and were not agricultural firms, financial institutions, or government entities. These firms also had to be in business during December 1998. Data were collected for fiscal year-end 1998. Like its 1993 counterpart, the purpose of this survey was to gather information about small business financial behavior and the use of financial services and financial service providers by these firms. The objectives of the survey were to collect information that can inform researchers and policy makers on the availability of credit to small businesses; the location of the sources of financial services; the types of financial services used, including checking accounts, savings accounts, various types of credit, credit cards, trade credit, and equity injections; as well as the firm’s recent credit acquisition experiences. The survey also investigated the level of debt held by these firms and their accessibility to credit. Additionally, the survey collected information on firm and owner demographics, as well as the firm’s recent income statement and balance sheet.

Table 5.17. What is the Most Important Problem Facing Your Business Today?

	Non-minority Male	African American	Other	Hispanic	Non-minority Female	Total
Financing and interest rates	5.8%	18.2%	10.6%	8.1%	6.2%	6.8%
Taxes	7.7%	1.9%	5.3%	3.1%	6.6%	6.9%
Inflation	0.4%	0.6%	0.0%	1.0%	0.4%	0.4%
Poor sales	7.0%	5.9%	11.6%	7.0%	8.3%	7.5%
Cost/availability of labor	3.9%	3.3%	2.4%	3.5%	4.5%	3.9%
Government regulations/red tape	7.1%	3.0%	4.8%	8.1%	6.5%	6.8%
Competition (from larger firms)	11.1%	10.7%	10.6%	18.4%	10.2%	11.3%
Quality of labor	14.4%	11.0%	9.4%	8.7%	9.1%	12.6%
Cost and availability of insurance	2.6%	1.0%	0.8%	0.0%	2.3%	2.2%
Other	11.4%	10.0%	8.3%	16.0%	12.7%	11.7%
Cash flow	4.6%	10.9%	6.3%	3.5%	3.3%	4.6%
Capital other than working capital	1.1%	1.7%	4.1%	0.8%	1.3%	1.3%
Acquiring and retaining new customers	3.1%	3.9%	5.0%	1.8%	3.3%	3.2%
Growth of firm/industry	0.9%	1.0%	1.2%	0.1%	0.4%	0.8%
Overcapacity of firm/industry	0.1%	0.0%	0.0%	0.3%	0.0%	0.1%
Marketing/advertising	2.1%	3.9%	2.5%	2.8%	3.6%	2.5%
Technology	1.4%	1.2%	1.6%	2.6%	1.3%	1.5%
Costs, other than labor	2.7%	1.8%	2.5%	3.6%	3.8%	2.9%
Seasonal/cyclical issues	1.3%	1.2%	0.7%	0.4%	0.7%	1.1%
Bill collection	2.8%	2.2%	2.4%	2.6%	2.8%	2.8%
Too much work/not enough time	3.6%	2.2%	4.3%	1.4%	5.7%	3.9%
No problems	4.6%	4.3%	5.6%	5.8%	6.4%	5.1%
Not ascertainable	0.4%	0.0%	0.0%	0.0%	0.7%	0.4%

Source: NERA calculations from the 1998 SSBF (n=3,561).

Note: Results are weighted.

2. Differences in Loan Denial Rates by Race/Ethnicity

In 1998 as in 1993, in comparison with firms owned by nonminority males, minority- and female-owned firms were less creditworthy, more likely to have their loan applications turned down, more likely not to apply for a loan for fear of being denied, and consistently smaller and younger. Moreover, their owners had lower amounts of both home and non-home equity. Minority-owned firms in general, and African American-owned firms in particular, were much less likely to be classified as having a “low risk” credit rating by Dun & Bradstreet.¹⁴³

In the 1993 survey, respondents were asked: “During the last three years has the firm applied for credit or asked for the renewal of terms on an existing loan?” In 1998, a narrower question limited to new loans was asked: “Did the firm apply for new loans in the last three years?” In 1993, 43 percent answered the question in the affirmative compared with 27 percent in 1998. Despite the fact that in 1993 the question was broader, the pattern of denials by race and gender is similar across the years. As can be seen below, minority-owned firms were especially likely to have their loan applications denied.

Percentage of Loan Applications Denied		
	1993	1998
Nonminority males	26.2%	24.4%
African Americans	65.9%	62.3%
Asians/Pacific Islanders, Native Americans, <i>etc.</i>	39.9%	47.0%
Hispanics	35.9%	49.9%
Nonminority females	30.1%	23.5%
Overall	28.8%	28.6%

Similarly, the proportion of firms reporting that they did not apply for fear of being denied is similar by race, ethnicity, and gender across the two survey years. More than half of African American owners did not apply for a loan for fear of being denied compared with only one out of five nonminority males.

Percentage Not Applying for Fear of Denial		
	1993	1998
Nonminority males	22.5%	20.2%
African Americans	60.7%	53.9%
Asians/Pacific Islanders, Native Americans, <i>etc.</i>	27.5%	23.1%
Hispanics	41.5%	34.3%
Nonminority females	22.7%	24.2%
Overall	24.7%	23.3%

In the 1998 SSBF survey, respondents who were denied loans were asked if they believed there were reasons other than the official ones provided by their financial institution as to why their loan applications were turned down. Among numerous options provided were the following:

- a) Prejudice on a racial/ethnic basis.

¹⁴³ Information on home and non-home equity or on the Dun & Bradstreet credit rating was not available in the 1993 survey.

- b) Prejudice against women.
- c) Prejudice against the business location.
- d) Prejudice against the business type.
- e) Prejudice or discrimination (not-specified or other).

Among firm owners who had applied for credit within the last three years and were denied, 34.1 percent believed there were reasons for their denial beyond the official explanation provided by the financial institution. Among nonminorities, 7.7 percent suspected some sort of prejudice. By contrast, the figure among minorities was 25.8 percent. Among owners who needed credit but did not apply for fear of denial, a similar pattern was observed. Only 1.7 percent of nonminorities stated prejudice was the reason, whereas among minorities the figure was 6.8 percent.

In Tables 5.8 and 5.9, the determinants of loan denial rates were estimated using data from the 1993 NSSBF. It was found that African American-owned firms were almost twice as likely to have their loans denied than nonminority male-owned firms, even after controlling for a host of variables included primarily to control for the possibility that minority-owned firms are smaller and less creditworthy than those owned by nonminority men.

A similar exercise is performed below in Tables 5.18 and 5.19 using data from the 1998 SSBF. Column 1 in Table 5.18 shows that African American-owned firms in 1998 had a 42.2 percentage point higher probability of denial than nonminority male-owned firms before taking account of creditworthiness of the firm or any other characteristics. For 1993, the comparable figure was 44.3 percentage points. The addition of a large number of controls reduces the percentage point differential for African Americans to 21.8 in column 5 as the full set of controls is added. For 1993, the comparable figure was 24.1 percentage points.

The main difference between 1993 and 1998 is that now we find evidence that the probability of denial is significantly higher for Hispanic-owned firms as well. In Table 5.18, Column 5, Hispanic-owned firms have a 17.1 percentage point higher probability of being denied than nonminority male-owned firms. In Table 5.8, by contrast, denial probabilities for Hispanic-owned firms were *not* significantly different from those of nonminority male-owned firms. If anything, discrimination in the small business credit market appears to have worsened during the late 1990s.

Table 5.18. Determinants of Loan Denial Rates—USA

	(1)	(2)	(3)	(4)	(5)
African American	0.422 (7.94)	0.254 (5.36)	0.217 (5.05)	0.192 (4.52)	0.218 (4.74)
Asian/Pacific Islander	0.148 (2.54)	0.129 (2.52)	0.049 (1.25)	0.023 (0.65)	0.028 (0.77)
Hispanic	0.353 (6.44)	0.269 (5.37)	0.211 (4.69)	0.183 (4.21)	0.171 (4.00)
Nonminority female	0.087 (2.22)	0.049 (1.55)	0.024 (0.96)	0.016 (0.66)	0.011 (0.44)
Judgments		0.272 (4.28)	0.249 (4.32)	0.272 (4.47)	0.262 (4.20)
Firm delinquent		0.081 (2.88)	0.115 (4.20)	0.103 (3.88)	0.111 (4.01)
Personally delinquent		0.092 (2.85)	0.039 (1.59)	0.042 (1.69)	0.045 (1.76)
Bankrupt past 7 years		0.504 (4.48)	0.406 (3.83)	0.392 (3.67)	0.395 (3.64)
\$1998 sales (*10 ⁸)		-0.000 (2.47)	-0.000 (0.26)	0.000 (0.02)	0.000 (0.03)
\$1998 firm equity (*10 ⁸)		0.000 (1.40)	0.000 (0.46)	0.000 (0.20)	0.000 (0.06)
Owner home equity (*10 ⁸)		0.000 (0.52)	0.000 (1.47)	0.000 (0.96)	0.000 (0.90)
Owner net worth (*10 ⁸)		-0.000 (1.25)	-0.000 (1.28)	-0.000 (1.19)	-0.000 (1.24)
Owner years of experience		-0.002 (1.42)	-0.001 (0.49)	-0.000 (0.34)	-0.000 (0.21)
Owner share of business		0.000 (0.75)	-0.000 (0.12)	0.000 (0.03)	-0.000 (0.33)
Dun & Bradstreet credit ratings (4 variables)	No	Yes	Yes	Yes	Yes
Owner Education (6 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (1 variable)	No	No	Yes	Yes	Yes
Geographic Division (8 indicator variables)	No	No	No	Yes	Yes
Industry (8 indicator variables)	No	No	No	Yes	Yes
Year of Application (5 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (11 indicator vars.)	No	No	No	No	Yes
N	924	924	924	924	905
Pseudo R ²	.1061	.2842	.3714	.3910	.4015
Chi ²	90.0	241.1	315.1	331.8	337.8
Log likelihood	-379.3	-303.7	-266.7	-258.3	-251.7

Source: See Table 5.17.

Notes: (1) Reported estimates are derivatives from Probit models, t-statistics are in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) “Other firm characteristics” include variables indicating whether the firm had a line of credit, 1998 full time equivalent employment, firm age, metropolitan area, legal form of organization (sole proprietorship, partnership, LLP, S-corporation, C-corporation, or LLC), existing long run relation with lender, geographic scope of market (regional, national, foreign or international), the value of the firm’s inventory, the firm’s cash holdings, and the value of land held by the firm. (3) “Characteristics of the loan” includes the size of the loan applied for.

Table 5.19. Determinants of Loan Denial Rates—SATL

	(1)	(2)	(3)	(4)	(5)
African American	0.471 (7.46)	0.318 (5.38)	0.236 (4.59)	0.217 (4.16)	0.243 (4.35)
Asian/Pacific Islander	0.189 (3.00)	0.162 (2.89)	0.072 (1.65)	0.041 (1.05)	0.048 (1.17)
Hispanic	0.381 (6.27)	0.309 (5.46)	0.251 (4.79)	0.223 (4.32)	0.209 (4.13)
Nonminority Female	0.074 (1.69)	0.049 (1.39)	0.021 (0.75)	0.012 (0.45)	0.004 (0.16)
African American*SATL	-0.092 (1.42)	-0.072 (1.65)	-0.029 (0.63)	-0.028 (0.64)	-0.027 (0.60)
Asian/Pacific Islander*SATL					
Hispanic*SATL	-0.080 (0.96)	-0.070 (1.32)	-0.051 (1.28)	-0.047 (1.20)	-0.046 (1.20)
Nonminority female*SATL	0.050 (0.53)	-0.011 (0.18)	0.001 (0.02)	0.006 (0.11)	0.017 (0.29)
SATL division	0.043 (0.94)	0.041 (1.05)	0.040 (1.19)	0.006 (0.13)	0.011 (0.22)
Creditworthiness Controls (8 variables)	No	Yes	Yes	Yes	Yes
Owner's Education (6 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (1 variable)	No	No	Yes	Yes	Yes
Geographic Division (7 indicator variables)	No	No	No	Yes	Yes
Industry (8 indicator variables)	No	No	No	Yes	Yes
Year of Application (5 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (11 indicator vars.)	No	No	No	No	Yes
N	918	918	918	918	899
Pseudo R ²	0.1119	0.2893	0.3750	0.3941	0.4052
Chi ²	94.67	244.85	317.33	333.51	339.91
Log likelihood	-375.8	-300.7	-264.5	-256.4	-249.5

Source: See Table 5.17.

Notes: (1) t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Other creditworthiness controls are the four other variables included in Column 2 of Table 5.18.

Table 5.19 focusing on the SATL division yields similar results—showing significantly larger denial probabilities for African American- and Hispanic-owned firms (24.3 percent and 20.9 percent, respectively) than for nonminority male-owned firms. The SATL indicator was not significant in Table 5.19. None of the interaction terms between SATL and race, ethnicity or gender were significant either, indicating that the loan denial results for the SATL are not significantly different than for the nation as a whole.

Although tempered by the smaller sample size available, the quality of the experiment is somewhat better using the 1998 data than it was using the 1993 data due to the availability of an

improved set of controls for the creditworthiness of the firm and its owner. In 1998, three new variables are included regarding the financial viability of the firm:

- a) The value of the equity, if any, in the owner's home.
- b) The owner's net worth excluding home equity and equity in the firm.
- c) The firm's Dun & Bradstreet credit rating in five categories (low, moderate, average, significant and high) indicating the likelihood of loan default.¹⁴⁴

Despite the fact that these new variables do help to predict loan denials,¹⁴⁵ the estimated race differences including these variables are unchanged from those reported above.¹⁴⁶ This suggests that the large estimated differences in the denial probabilities that were estimated in 1993 were not biased significantly upwards by the fact that these variables were unavailable.

3. Effect of 1998 Survey Design Changes on Differences in Loan Denial Rates

The question we used to examine the 1998 data was somewhat narrower than the question used in the 1993 survey because it was changed by the survey designers. The 1998 question asked about new loans over the preceding three years, whereas the 1993 question covered all loans, including renewals. Responses in 1998 were as follows:

Applied for New Loans Last Three Years	Number	Percent
Did not apply	2,599	73.0%
Always approved	713	20.0%
Always denied	166	4.7%
Sometimes approved/sometimes denied	83	2.3%
Total	3,561	100.0%

The dependent variable used in Tables 5.18 and 5.19 was set to one if the loan application was always denied and was set to zero if the application was always approved or sometimes approved/sometimes denied. An alternative dependent variable—*DenyAlt*—is set to one if the application is always denied, set to zero if always approved. Those responding “sometimes approved/sometimes denied” are excluded from the analysis. Column (1) of Table 5.20 replicates Column 1 of Table 5.18 using *DenyAlt* as the dependent variable with the smaller sub-sample. African Americans, Hispanics, Asians/Pacific Islanders, and nonminority females are all confirmed to face higher denial rates than nonminority males using this specification. For

¹⁴⁴ The D&B Commercial Credit Score Report predicts the likelihood of a company paying in a delinquent manner (90+ days past terms) during the next 12 months based on the information in D&B's file. The score is intended to help firms decide quickly whether to accept or reject accounts, adjust terms or credit limits, or conduct a more extensive review based on the report D&B provides. Firms can also determine the company's relative ranking among other businesses in the D&B database.

¹⁴⁵ The coefficients and t-statistics on the credit score variables when they were included alone in a U.S. loan denial model was as follows: moderate risk = .228 (2.45); average risk = .295 (3.25); significant risk = .319 (3.28); high risk = .391 (3.53); n = 924; pseudo r^2 = .0253. Excluded category “low risk.” Results were essentially the same when a control for SATL was also included.

¹⁴⁶ This confirms the findings of Cavalluzzo, Cavalluzzo and Wolken (2002) who performed a similar exercise with the 1993 data.

African Americans and Hispanics, the difference is 46 and 36 percentage points, respectively. For Asians/Pacific Islanders, the difference is 19 percentage points, and for nonminority females, 8 percentage points.

Table 5.20. More Loan Denial Probabilities

	(1)	(2)	(3)	(4)
	<i>DenyAlt</i>	<i>DenyAlt</i>	<i>DenyAlt</i>	<i>DenyAlt</i>
African American	0.457 (8.00)	0.246 (4.76)	0.499 (7.42)	0.271 (4.32)
Asian/Pacific Islander	0.185 (2.81)	0.027 (0.65)	0.231 (3.25)	0.043 (0.93)
Hispanic	0.360 (6.28)	0.171 (3.67)	0.385 (6.07)	0.206 (3.79)
Nonminority female	0.083 (2.00)	0.005 (0.20)	0.068 (1.48)	0.001 (0.04)
African American*SATL			-0.091 (1.21)	-0.028 (0.53)
Asian/Pacific Islander*SATL				
Hispanic*SATL			-0.078 (0.82)	-0.051 (1.06)
Nonminority female*SATL			0.058 (0.57)	0.011 (0.16)
SATL			0.043 (0.87)	0.025 (0.43)
Creditworthiness Controls	No	Yes	No	Yes
Owner's Education	No	Yes	No	Yes
Other Firm Characteristics	No	Yes	No	Yes
Characteristics of the Loan	No	Yes	No	Yes
Geographic Division	No	Yes	No	Yes
Industry	No	Yes	No	Yes
N	846	846	841	841
Pseudo R ²	0.1112	0.4265	0.1168	0.4284
Chi ²	90.94	348.71	95.23	349.41
Log likelihood	-363.3	-234.5	-360.1	-233.1

Source: See Table 5.18.

Results consistent with discrimination are confirmed for African American-owned firms and Hispanic-owned firms in Column (2) of Table 5.20 when a host of demographic and financial characteristics and geographic and industry indicators are included. When interaction terms for the SATL division are added to the model as in Columns (3) and (4), results for African Americans and Hispanics remain statistically significant throughout. The SATL indicator is not significant in any of the specifications, nor are the interaction terms between SATL and race, ethnicity, or gender.

4. Differences in Interest Rates, Credit Card Use, and Failure to Apply for Fear of Denial

Tables 5.21 through 5.23 provide confirmation from the 1998 survey of a number of other results from the 1993 survey reported above.

Table 5.21, which is similar to Tables 5.13 and 5.14, finds that conditional on obtaining a loan, African American-owned firms are charged a higher price for their credit—on average 1.06 percentage points nationally and 1.18 percentage points in the SATL.

Table 5.22, which is similar to Table 5.15, shows that African American-owned firms are much more likely not to apply for a loan for fear that they will be denied. Based on all of the foregoing evidence, this is perhaps a sensible decision—if and when they do apply they are almost twice as likely as nonminority male-owned firms to have their application rejected. This is evident in the SATL as well and also in the construction sector. There is some evidence of this phenomenon for Hispanic-owned firms nationally as well.

Finally, Table 5.23, which is comparable to Tables 5.11 and 5.12, suggests that when the financial institution does not know the race or ethnicity of the applicant—as is often the case in an application for a credit card—there are no differences by race or ethnicity in the usage for business purposes of either business or personal credit cards. There was also no evidence of any race effects in the use of business credit cards in the SATL region (row 3) or in construction (results not reported here).

The strength of the findings from the 1993 NSSBF survey is elevated by these findings from the 1998 SSBF survey, which strongly confirm the earlier results. Unfortunately, African Americans continue to be discriminated against in the market for small business credit throughout this time period. By 1998, this discrimination was on the increase for African Americans and expanding to impact other minority groups, such as Hispanics and Asians/Pacific Islanders, as well.

Table 5.21. Models of Interest Rate Charged

Specification	African American	African American* SATL	Asian/Pacific Islander	Hispanic	Non-minority Female
1a) All Loans (as in Column 5 of Table 5.18) n=765	1.064 (2.66)	–	–	0.559 (1.49)	-0.088 (0.23)
1b) All Loans (as in Column 5 of Table 5.19) n=765	1.177 (2.22)	-0.407 (0.49)	0.251 (0.25)	0.639 (1.50)	-0.152 (0.30)

Source: See Table 5.18.

Notes: (1) Each line of this table represents a separate OLS regression with all of the control variables. (2) t-statistics are in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (3) The sample consists of firms that had applied for a loan and had their application approved.

Table 5.22. Racial Differences in Failing to Apply for Loans Fearing Denial

Specification	African American	Asian/Pacific Islander	Hispanic	Non-minority Female
a) U.S.				
No Other Control Variables (n=3,448)	0.353 (11.90)	0.046 (1.48)	0.173 (5.77)	0.051 (2.55)
Full Set of Control Variables (n=3,448)	0.208 (7.04)	-0.012 (0.43)	0.052 (1.87)	0.011 (0.59)
b) SATL division				
No Other Control Variables (n=565)	0.389 (7.00)	-0.001 (0.01)	0.122 (1.71)	0.080 (1.58)
Full Set of Control Variables (n=560)	0.218 (4.21)	-0.024 (0.35)	0.023 (0.40)	0.023 (0.57)
c) Construction				
No Other Control Variables (n=613)	0.371 (5.06)	0.117 (1.43)	0.020 (0.26)	0.122 (2.08)
Full Set of Control Variables (n=609)	0.273 (3.69)	0.099 (1.32)	-0.062 (1.13)	0.038 (0.74)

Source: See Table 5.18.

Notes: (1) Reported estimates are Probit derivatives with t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Full set of control variables as in Column 5 of Table 5.18, except for loan amount, year of application, and type of lender.

Table 5.23. Models of Credit Card Use

Specification	African American	Asian/ Pacific Islander	Hispanic	Nonminority Female	Sample Size
1) Business Credit Card	-0.001 (0.02)	-0.038 (1.00)	-0.014 (0.38)	-0.018 (0.72)	3,561
2) Personal Credit Card	-0.018 (0.54)	0.016 (0.44)	-0.050 (1.42)	0.012 (0.52)	3,561
3) Business Credit Card SATL	0.034 (0.49)	-0.198 (1.73)	-0.063 (0.7)	-0.108 (1.71)	641
4) Personal Credit Card SATL	-0.031 (0.47)	0.018 (0.16)	-0.028 (0.32)	0.091 (1.54)	641
3) Business Credit Card Construction & related	0.056 (0.62)	-0.074 (0.70)	0.087 (0.86)	-0.025 (0.35)	624
4) Personal Credit Card Construction & related	0.003 (0.04)	0.047 (0.46)	-0.092 (1.01)	-0.073 (0.99)	624

Source: See Table 5.18.

Notes: (1) Each line of this table represents a separate regression with the same control variables as Column 5 of Table 5.18, except for loan amount, year of application, and type of lender. (2) The dependent variable indicates whether the firm used business or personal credit cards to finance business expenses. (3) In all specifications, the sample size includes all firms. (4) Reported estimates are Probit derivatives with t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level.

I. Analysis of Credit Market Discrimination in the U.S. in 2003

The most recent wave of the Survey of Small Business Finances was made available by the Board of Governors of the Federal Reserve System in 2007.¹⁴⁷ This is the fourth and final survey of U.S. small businesses conducted by the Board of Governors since 1987.¹⁴⁸ The survey gathered data from 4,072 firms selected to be representative of small businesses operating in the U.S. at the end of 2003. The survey covered a nationally representative sample of U.S. for profit, non-financial, non-subsiary, nonagricultural, and nongovernmental businesses with fewer than 500 employees that were in operation at year-end 2003 and at the time of interview. Most interviews took place between June 2004 and January 2005. The sample was drawn from the Dun & Bradstreet Market Identifier file. The number of employees varied from zero to 486 with a weighted median of 3.0 and weighted mean of 8.6.

¹⁴⁷ See www.federalreserve.gov/pubs/oss/oss3/ssbf03/ssbf03home.html.

¹⁴⁸ The Federal Reserve Board cancelled the SSBF subsequent to the completion of the 2003 wave, ostensibly for financial reasons. See Robb (2010).

Unfortunately, the 2003 SSBF did not over-sample minority-owned firms, as in the first three survey waves. According to survey staff, this was due to concerns that doing so would delay the survey timeline and reduce the overall response rate.¹⁴⁹

In 1998, almost 8 percent of survey respondents were African American, compared to slightly more than 3 percent in 2003. Hispanics were almost 7 percent in 1998 but less than 4 percent in 2003. Other minorities were 6.5 percent in 1998 but only 5.4 percent in 2003.¹⁵⁰ Although the population weights were adjusted to accommodate these changes, even these weighted percentages are significantly smaller for minorities in 2003 than in 1998.¹⁵¹

Mach and Wolken (2006) reported using these data that 13.1 percent of firms were owned by nonminority or Hispanic individuals; the share is statistically lower than in 1998 (14.6 percent). The shares for African Americans and Asians/Pacific Islanders each held roughly constant at 4 percent; the share of American Indians and Alaska natives held at roughly 1 percent. However, the share of Hispanics fell a statistically significant amount from 5.6 percent to 4.2 percent. The percentage of firms owned by females also declined from 72.0 percent to 64.8 percent. Despite these drawbacks, our analysis of the 2003 SSBF yields results that are strongly consistent with those obtained from the 1993 and 1998 survey waves. The remainder of this section presents our findings from this analysis.¹⁵²

1. Qualitative Evidence

Table 5.24 reports the results of asking business owners for the most important problem currently facing their firm. Consistent with the surveys in earlier years, firms owned by minority and women-owned firms were more likely to say that their most important problem was “financing and interest rates.” Once again, the African American-nonminority difference was most pronounced—only slightly more than 5 percent of nonminority male business owners reported this as their major problem compared to almost 21 percent of African American business owners.

¹⁴⁹ See fn. 104, above.

¹⁵⁰ The impact on women was not as pronounced. Females were 23.3 percent in 1998 and 20.9 percent in 2003. For nonminority females, the figures are 17.8 percent in 1998 and 18.2 percent in 2003.

¹⁵¹ Mach and Wolken (2006, Table 2) report that weighted figures for Blacks were 4.1 percent in 1998 and 3.7 percent in 2003. Hispanics were 5.6 and 4.2 percent, respectively; Asians and Pacific Islanders were 4.4 and 4.2 percent, respectively; Native Americans were 0.8 and 1.3 percent, respectively; and women were 24.3 and 22.4 percent, respectively.

¹⁵² The data file provided by the Board of Governors includes five separate observations per firm. That is to say, there are $4240 \times 5 = 21,200$ observations. These so-called multiple imputations are done via a randomized regression model, and are included because where there are missing observations several alternative estimates are provided. Where values are not missing the values for each of the five imputations are identical. We make use of the data from the first imputation: the results presented here are essentially identical whichever imputation is used. Overall, only 1.8 percent of observations in the data file were missing.

Table 5.24. What is the Most Important Problem Facing Your Business Today?

	Non-minority Male	African American	Other	Hispanic	Non-minority Female	Total
Financing and interest rates	5.4%	20.7%	9.1%	5.7%	5.8%	6.3%
Taxes	6.3%	2.4%	4.9%	7.7%	4.3%	5.7%
Inflation	2.7%	1.0%	2.3%	0.5%	1.4%	2.3%
Poor sales or profitability	17.8%	38.5%	28.9%	30.0%	22.5%	20.6%
Cost/availability of labor	1.5%	0.0%	0.6%	1.5%	1.5%	1.4%
Government regulations/red tape	4.7%	1.0%	5.4%	9.6%	2.5%	4.5%
Competition from larger firms	4.0%	2.7%	2.7%	3.6%	3.6%	3.8%
Quality of labor	7.9%	6.9%	5.0%	3.8%	6.5%	7.2%
Cost and availability of insurances	10.3%	1.8%	3.1%	5.2%	6.4%	8.6%
Other	2.6%	1.9%	4.0%	2.8%	1.6%	2.5%
None	5.3%	3.4%	9.4%	4.1%	8.6%	6.0%
Cash flow	6.2%	5.1%	4.6%	7.1%	6.8%	6.3%
Growth	0.9%	2.7%	0.4%	1.1%	0.8%	1.0%
Foreign competition	1.3%	0.0%	1.0%	0.1%	0.7%	1.0%
Competition - other	1.6%	0.8%	1.8%	0.1%	1.1%	1.4%
Availability of materials/resources	0.8%	0.8%	0.6%	1.6%	1.2%	0.9%
Labor problems other than cost or quality	1.2%	2.2%	0.2%	0.0%	1.3%	1.1%
Internal management/administrative problems	4.2%	2.5%	4.3%	1.0%	6.1%	4.4%
Environmental constraints	1.4%	0.7%	1.6%	2.3%	2.0%	1.6%
Advertising and public awareness	2.2%	1.8%	2.4%	1.8%	3.3%	2.4%
Market/economic/industry factors	4.9%	1.9%	4.0%	2.3%	6.2%	4.8%
Health care cost and availability	1.5%	0.0%	0.7%	0.8%	1.4%	1.4%
Energy costs	1.5%	0.0%	0.7%	3.7%	1.2%	1.4%
Costs other than health care and energy	2.2%	1.0%	0.1%	3.6%	1.0%	1.9%
Owner's personal problems	0.3%	0.0%	0.0%	0.0%	0.8%	0.4%
Technology	0.4%	0.0%	0.7%	0.0%	0.5%	0.4%
Dealing with insurance companies	0.3%	0.4%	0.0%	0.0%	0.4%	0.3%
War and September 11th	0.2%	0.0%	1.3%	0.0%	0.5%	0.3%

Source: NERA calculations from the 2003 SSBF (n=4,072).

Note: Results are weighted.

2. Differences in Loan Denial Rates by Race/Ethnicity

Tables 5.25 and 5.26 present estimates of loan denial probabilities for the nation as a whole and for the SATL division using a regression model comparable to that used with the 1993 and 1998 survey waves.¹⁵³

Column (1) in Table 5.25 (comparable to Table 5.8 for 1993 and 5.18 for 1998) shows that African American-owned firms in 2003 had a 45.9 percentage point higher probability of denial than nonminority male-owned firms before taking into account the creditworthiness of the firm or any other characteristics. The addition of a large number of controls reduces the percentage point differential for African Americans to 9.4 in Column (5) as the full set of controls is added. The coefficients in Column (5) for nonminority females and for Native American and Other minority groups are not significant, however.

Table 5.26 (comparable to Table 5.9 for 1993 and 5.19 for 1998) focuses on the SATL division and yields similar results—showing significantly larger denial probabilities for African American-owned firms than for nonminority male-owned firms, persisting even after the addition of all of the control variables. The SATL indicator as well as the race and gender interaction terms with the SATL are also insignificant when the control variables are added.

¹⁵³ In 2003, the credit application question was changed from 1998 to once again include requests for renewals as well as new loans, making it comparable to the 1993 version.

Table 5.25. Determinants of Loan Denial Rates—USA

	(1)	(2)	(3)	(4)	(5)
African American	0.459 (8.38)	0.136 (5.47)	0.105 (4.80)	0.091 (5.04)	0.094 (4.95)
Asian/Pacific Islander	0.055 (1.51)	0.020 (1.59)	0.009 (1.01)	0.002 (0.49)	0.001 (0.18)
Hispanic	0.067 (1.74)	0.008 (0.83)	0.004 (0.58)	0.001 (0.30)	0.001 (0.25)
Native American and Other	0.184 (2.22)	0.061 (1.95)	0.032 (1.47)	0.021 (1.43)	0.021 (1.49)
Nonminority female	0.043 (2.17)	0.003 (0.70)	0.002 (0.49)	0.001 (0.57)	0.002 (0.76)
Judgments against owner		0.007 (0.66)	0.003 (0.35)	0.003 (0.54)	0.006 (0.90)
Judgments against firm		0.005 (1.16)	0.005 (1.42)	0.001 (0.54)	0.001 (0.64)
Firm delinquent		0.032 (3.78)	0.021 (3.23)	0.019 (3.89)	0.021 (4.08)
Personally delinquent		-0.007 (0.69)	-0.006 (1.02)	-0.003 (0.82)	-0.002 (0.58)
Owner Bankrupt past 7 years		0.046 (1.36)	0.041 (1.35)	0.052 (1.81)	0.044 (1.66)
Firm Bankrupt past 7 years		0.000 (0.03)	0.003 (0.37)	0.001 (0.17)	-0.001 (0.38)
\$1998 sales (*10 ⁸)		-0.000 (1.68)	0.000 (0.04)	0.000 (0.29)	0.000 (0.51)
\$1998 firm equity (*10 ⁸)		-0.000 (2.23)	-0.000 (1.03)	-0.000 (1.62)	-0.000 (1.63)
Owner home equity (*10 ⁸)		0.000 (0.28)	0.000 (0.02)	-0.000 (0.45)	-0.000 (0.26)
Owner net worth (*10 ⁸)		-0.000 (2.97)	-0.000 (2.92)	-0.000 (3.06)	-0.000 (3.26)
Owner years of experience		0.000 (0.31)	0.000 (1.00)	0.000 (0.82)	0.000 (0.62)
Owner share of business		0.000 (0.08)	0.000 (0.61)	0.000 (0.38)	0.000 (0.47)
Dun & Bradstreet credit ratings (4 variables)	No	Yes	Yes	Yes	Yes
Owner Education (6 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (1 variable)	No	No	Yes	Yes	Yes
Geographic Division (8 indicator variables)	No	No	No	Yes	Yes
Industry (8 indicator variables)	No	No	No	Yes	Yes
Year of Application (5 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (11 indicator vars.)	No	No	No	No	Yes
N	1,664	1,655	1,655	1,655	1,605
Pseudo R ²	.0850	.2267	.2901	.3336	.3681
Chi ²	74.1	192.9	246.8	283.8	310.3
Log likelihood	-399.1	-328.9	-301.9	-283.4	-266.4

Source: See Table 5.26. Notes: (1) (1) Reported estimates are Probit derivatives with t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) "Other firm characteristics" include variables indicating whether the firm had a line of credit, 2003 total employment, firm age, metropolitan area, legal form of organization (sole proprietorship, partnership, LLP, S-corporation, C-corporation, or LLC), existing long run relation with lender, geographic scope of market (local, regional, national, foreign or international), the value of the firm's inventory, the firm's cash holdings, the value of land held by the firm, and total salaries and wages paid. (3) "Characteristics of the loan" includes the size of the loan applied for.

Table 5.26. Determinants of Loan Denial Rates—SATL

	(1)	(2)	(3)	(4)	(5)
African American	0.412 (6.44)	0.111 (4.18)	0.088 (3.74)	0.082 (4.05)	0.083 (4.05)
Asian/Pacific Islander	0.051 (1.31)	0.016 (1.24)	0.007 (0.80)	0.001 (0.26)	-0.000 (0.00)
Hispanic	0.030 (0.70)	-0.002 (0.22)	-0.002 (0.23)	-0.002 (0.59)	-0.002 (0.63)
Native and Other	0.206 (2.34)	0.062 (1.94)	0.035 (1.50)	0.022 (1.43)	0.022 (1.50)
Nonminority female	0.054 (2.39)	0.004 (0.70)	0.002 (0.55)	0.002 (0.63)	0.002 (0.96)
African American*SATL	0.053 (0.78)	0.018 (0.81)	0.011 (0.61)	0.003 (0.34)	0.003 (0.35)
Asian/Pacific Islander*SATL	0.025 (0.27)	0.018 (0.55)	0.010 (0.38)	0.009 (0.49)	0.009 (0.50)
Hispanic-Other*SATL	0.093 (1.04)	0.067 (1.55)	0.032 (1.16)	0.032 (1.39)	0.034 (1.40)
Native-Other*SATL					
Nonminority female*SATL	0.054 (2.39)	0.004 (0.70)	-0.002 (0.19)	-0.001 (0.25)	-0.002 (0.57)
SATL division	0.010 (0.51)	-0.002 (0.35)	-0.001 (0.32)	-0.001 (0.32)	-0.001 (0.38)
Creditworthiness (4 variables)	No	Yes	Yes	Yes	Yes
Dun & Bradstreet credit ratings (4 variables)	No	Yes	Yes	Yes	Yes
Balance Sheet (4 indicator variables)	No	Yes	Yes	Yes	Yes
Owner Experience (1 indicator variable)	No	Yes	Yes	Yes	Yes
Owner's Share of Business (1 indicator variable)	No	Yes	Yes	Yes	Yes
Owner's Education (6 indicator variables)	No	Yes	Yes	Yes	Yes
Other Firm Characteristics (17 variables)	No	No	Yes	Yes	Yes
Characteristics of the Loan (1 variable)	No	No	Yes	Yes	Yes
Geographic Division (7 indicator variables)	No	No	No	Yes	Yes
Industry (8 indicator variables)	No	No	No	Yes	Yes
Year of Application (5 indicator variables)	No	No	No	No	Yes
Type of Financial Institution (11 indicator vars.)	No	No	No	No	Yes
N	1,663	1,654	1,654	1,654	1,604
Pseudo R ²	0.0897	0.2307	0.2926	0.3367	0.3719
Chi ²	78.25	196.16	248.84	286.32	313.48
Log likelihood	-397.0	-327.2	-300.8	-282.1	-264.7

Source: See Table 5.24.

Notes: (1) t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Creditworthiness controls include presence of legal judgments against the firm during the previous 3 years, more than 60 days delinquent on any personal obligations of the firm's owner during the previous 3 years, more than 60 days delinquent on any business obligations of the firm during the previous 3 years, and declaration of owner of firm bankruptcy during the previous 7 years. (3) Balance sheet variables include firm sales in 1998, firm equity in 1998, owner's home equity in 1998, and owner's personal net worth (exclusive of firm equity and home equity) in 1998. (4) For other variables, see notes for Table 5.25.

3. Differences in Interest Rates, Credit Card Use, and Failure to Apply for Fear of Denial

Table 5.27 models the interest rate charged for those minority-owned and nonminority female-owned firms that were able to successfully obtain a loan (comparable to Tables 5.13 and 5.14 for 1993 and Table 5.21 for 1998). As was found in earlier surveys, African American business owners are hurt here as well since they have to pay, on average, 1.04 percentage points more for their loans than nonminority male business owners with identical characteristics. Hispanic business owners, as well, pay 1.01 percentage points more than their nonminority male counterparts.

Table 5.27 shows that the loan price differential is present for African American and Hispanic business owners in the SATL as well. For African American-owned firms, the differential is 1.1 percentage points. For Hispanics, the differential is 1.04 percentage points.

Table 5.28 reports the results of estimating a model where the dependent variable is whether a business or personal credit card is used to pay business expenses (comparable to Tables 5.11 and 5.12 for 1993 and Table 5.23 for 1998). As noted above, the application procedure for business and personal credit cards is usually automated and not conducted face-to-face. If there were missing variables such as creditworthiness or some such characteristic unobserved to the econometrician, then the race and ethnicity indicator variables should enter significantly in these equations. There is some evidence nationally and in the SATL in 2003 that African Americans and Hispanics are less likely to use personal credit cards for business expenses. However, this result is not observed for business credit cards.

Table 5.27. Models of Interest Rate Charged

Specification	African American	African American * SATL	Asian/Pacific Islander	Asian/Pacific Islander * SATL	Hispanic	Hispanic * SATL	Native and Other	Non-minority Female
1a) All Loans (as in Column 5 of Table 5.25) n=1,537	1.043 (2.01)		0.445 (1.24)		1.01 (2.76)		0.260 (0.35)	-0.142 (0.72)
1b) All Loans (as in Column 5 of Table 5.26) n=1,537	1.101 (1.72)	-0.187 (0.16)	0.486 (1.16)	-0.436 (0.40)	1.044 (2.22)	1.00 (1.18)	0.480 (0.51)	-0.185 (0.77)

Source: See Table 5.24.

Notes: (1) Each line of this table represents a separate regression with all of the control variables as indicated. (2) t-statistics are in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (3) Additionally, controls were included for whether the loan required a co-signer or guarantor, whether collateral was required and, if so, the type of collateral required. (4) The sample consists of firms that had applied for a loan and had their application approved.

Table 5.28. Models of Credit Card Use

Specification	African American	Asian/ Pacific Islander	Hispanic	Native American and Other	Non- minority Female	Sample Size
1) Business Credit Card	-0.060 (1.13)	0.040 (0.91)	0.004 (0.08)	-0.001 (0.01)	0.002 (0.07)	3,676
2) Personal Credit Card	-0.132 (2.68)	0.036 (0.84)	-0.080 (1.77)	-0.040 (0.48)	0.036 (1.56)	3,676
3) Business Credit Card, SATL	-0.057 (0.57)	0.096 (0.94)	-0.013 (0.13)	–	-0.011 (0.20)	655
4) Personal Credit Card, SATL	-0.185 (2.04)	-0.149 (1.52)	-0.271 (2.86)	–	0.056 (1.00)	646

Source: See Table 5.24.

Notes: (1) Each line of this table represents a separate regression with the same control variables as Column 5 of Table 5.27, except for loan amount, year of application, and type of lender. (2) The dependent variable indicates whether the firm used business or personal credit cards to finance business expenses. (3) In all specifications, the sample size is all firms. (4) Reported estimates are Probit derivatives with t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level.

Finally, consistent with earlier results, Table 5.29 (comparable to Tables 5.15 for 1993 and 5.22 for 1998) shows that African American owners are much more likely not to apply for a loan fearing they will be denied. Even after controlling for a host of demographic, financial, geographic and industry factors, African American business owners are still almost 17 percentage points more likely to fail to apply for loans for fear of denial—even though they need the credit. In the SATL, the phenomenon is evident as well—African American business owners are 15 percentage points more likely to fail to apply for fear of denial. In the construction sector, the trend is even more pronounced at 30 percentage points. Nationally, and in the SATL, there is evidence of this phenomenon for nonminority female business owners as well.

Table 5.29. Racial Differences in Failing to Apply for Loans Fearing Denial

Specification	African American	Asian/Pacific Islander	Hispanic	Native American and Other	Non-minority Female
a) USA					
No Other Control Variables (n=3,704)	0.385 (9.48)	0.059 (1.95)	0.138 (4.01)	0.138 (2.14)	0.072 (4.47)
Full Set of Control Variables (n=3,676)	0.166 (4.73)	0.038 (1.40)	0.050 (1.82)	0.052 (1.01)	0.035 (2.46)
b) SATL division					
No Other Control Variables (n=3,694)	0.357 (7.22)	0.060 (1.80)	0.115 (2.98)	0.126 (1.91)	0.088 (4.93)
Full Set of Control Variables (n=3,666)	0.152 (3.59)	0.036 (1.19)	0.033 (1.06)	0.046 (0.88)	0.046 (2.90)
c) Construction					
No Other Control Variables (n=705)	0.492 (4.34)	-0.022 (0.29)	0.090 (1.22)	0.258 (2.17)	0.026 (0.64)
Full Set of Control Variables (n=695)	0.303 (3.16)	0.002 (0.04)	-0.009 (0.34)	0.137 (1.65)	-0.002 (0.11)

Source: See Table 5.24.

Notes: (1) Reported estimates are Probit derivatives with t-statistics in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Full set of control variables as in Column 5 of Table 5.27, except for loan amount, year of application, and type of lender. (3) In Panel (b), interaction terms between race, gender, and SATL were all insignificant.

J. Further Analysis of Credit Market Discrimination: NERA Surveys 1999-2007

NERA has conducted local credit market surveys at nine other times and places since 1999. These include the Chicago metropolitan area in 1999, the State of Maryland in 2000 (Maryland I), the Jacksonville, Florida metropolitan area in 2002, the Baltimore-Washington, DC metropolitan area in 2003, the St. Louis metropolitan area in 2004, the Denver metropolitan area in 2005, the State of Maryland (again) in 2005 (Maryland II), the State of Massachusetts in 2005, and the Memphis, TN-MS-AR metropolitan area in 2007. The Chicago, Jacksonville, Baltimore, St. Louis, and Denver surveys focused on construction and construction-related industries, while the two Maryland surveys, the Massachusetts surveys, and the Memphis surveys, included other goods and services as well.

Our Chicago, Maryland I, and Jacksonville survey questionnaires followed the format of the 1993 NSSBF, while our Baltimore, St. Louis, Denver, Maryland II, Massachusetts, and Memphis surveys followed the format of the 1998 SSBF questionnaire.

As a final check on our findings in this chapter, we combined the results of these nine NERA surveys together in a consistent format and re-estimated the basic loan denial model on this larger file. These results appear below in Table 5.30, and are remarkably similar to results seen in Tables 5.8-5.9, 5.18-5.19, and 5.25-5.26. Denial probabilities for African American-owned firms compared to nonminority male-owned firms are 29 percentage points higher—even when creditworthiness controls, other firm and owner characteristics, and interaction terms are included.

Moreover, the NERA surveys found statistically significant loan denial disparities for Hispanic-owned firms and nonminority female-owned firms as well. Denial rates were 18-24 percentage points higher for Hispanic-owned firms and 5-9 percentage points higher for nonminority female-owned firms than for their nonminority male-owned counterparts. Significant loan denial disparities were also observed for Native American-owned firms (9-19 percentage points higher).

Finally, as shown in Table 5.31, we modeled the rate of interest charged, conditional upon receiving loan approval, using our nine-jurisdiction dataset. Results are very similar to that observed in Tables 5.13-5.14, 5.21 and 5.27. African Americans pay almost 1.7 percentage points more, on average, for their business credit than do nonminority males, declining to 1.5 percentage points when creditworthiness and other firm and owner controls are accounted for.

On the basis of the foregoing, we conclude that the evidence of credit discrimination from NERA's nine local credit market surveys conducted throughout the nation between 1999-2007 is entirely consistent with the results obtained using data from the 1993 NSSBF, the 1998 SSBF and the 2003 SSBF.

Table 5.30. Determinants of Loan Denial Rates—Nine Jurisdictions

	(1)	(2)
	<i>Most Recent Application</i>	<i>Last Three Years</i>
African American	0.289 (8.20)	0.293 (7.60)
Hispanic	0.178 (3.86)	0.244 (4.59)
Native American	0.087 (1.69)	0.188 (3.29)
Asian/Pacific Islander	0.042 (0.72)	0.003 (0.05)
Other race	0.313 (3.07)	0.364 (3.15)
Nonminority female	0.046 (1.83)	0.086 (2.96)
Judgments	0.051 (1.23)	0.119 (2.24)
Firm delinquent	0.022 (2.7)	0.057 (5.90)
Personally delinquent	0.076 (7.38)	0.077 (6.03)
Bankrupt past 3 years	0.228 (3.99)	0.328 (4.74)
N	1,855	1,855
Pseudo R ²	.1905	.1721
Chi ²	336.0	363.3

Source: NERA Credit Market Surveys, 1999-2007.

Notes: (1) Reported estimates are derivatives from Probit models, t-statistics are in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Indicator variables are also included for the various jurisdictions.

Table 5.31. Determinants of Interest Rates—Nine Jurisdictions

	(1)	(2)
African American	1.683 (3.44)	1.491 (2.98)
Asian/Pacific Islander	1.221 (2.16)	0.789 (1.34)
Hispanic	0.820 (1.48)	0.895 (1.56)
Native American	1.241 (1.52)	1.008 (1.24)
Other race	-1.115 (0.63)	-1.072 (0.61)
Nonminority female	0.046 (0.16)	0.018 (0.06)
Judgments		0.537 (0.85)
Firm delinquent		-0.041 (0.36)
Personally delinquent		0.644 (3.65)
Bankrupt past 3 years		1.184 (1.13)
Creditworthiness, Firm, and Owner Characteristics	No	Yes
Loan Characteristics	Yes	Yes
N	1,490	1,463
Adjusted R ²	.0831	.1046
F	11.4	11.05

Source: See Table 5.30.

Notes: (1) Reported estimates are OLS regression models, t-statistics are in parentheses. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at an 90 (95) (99) percent confidence level. (2) Five indicators for primary owner's education level, four indicators for legal form of organization, loan amount applied for, loan amount granted, and month and year of loan application were included. (3) Seven additional indicators for jurisdiction were also included.

K. Conclusions from the 1993, 1998 and 2003 SSBF Analyses

The results presented in this chapter indicate that African American-owned firms face serious obstacles in obtaining credit that are unrelated to their creditworthiness, industry, or geographic location. In a number of cases this is true as well for Hispanic-owned firms, Asian/Pacific Islander-owned firms, Native American-owned firms, and nonminority female-owned firms.

Many of the criticisms levied against the home mortgage loan discrimination study of Munnell, *et al.* (1996) could perhaps be applied to the analyses in this Chapter. Yet, these criticisms have been effectively countered by, *e.g.*, Browne and Tootell (1995) and Tootell (1996). What is important to keep in mind in reference to the analyses in the present Chapter compared with Munnell, *et al.* (1996), is the magnitude of the estimated racial disparities. The absolute size of the raw racial differences found in the mortgage study are considerably smaller than those observed in this study regarding small business credit.¹⁵⁴

The magnitude of the racial difference in small business loan approval rates is substantial, even after controlling for observed differences in creditworthiness, and considerably larger than that found in the analysis of discrimination in mortgage markets. Why do the results for small business loans differ so markedly from those obtained from mortgage loans? First, many mortgages are sold in the secondary market and a substantial fraction of mortgage lenders have little intention of keeping the loans they make. This added “distance” in the transaction might reduce the likelihood of discrimination. As Day and Liebowitz (1998, p. 6) point out, “economic self-interest, therefore, should reduce racial discrimination in this market more completely than in many others.” A highly sophisticated secondary market for loans to small firms does not exist. Second, the presence of special programs and regulatory incentives to encourage banks and others to increase their mortgage lending to minorities gives these groups some advantages in obtaining a mortgage.

Clearly, a portion of the difference in denial rates between nonminority males and other groups in both types of studies appears to be due to differences in the characteristics of the applicants. Even after controlling for these differences, however, the gap in denial rates in the small business credit market is considerably larger than that found in the mortgage market.¹⁵⁵

Our analysis finds significant evidence that African American-owned businesses face impediments to obtaining credit that go beyond observable differences in their creditworthiness. These firms are more likely to report that credit availability was a problem in the past and expect it to be a problem in the future. In fact, these concerns prevented more African American-owned firms from applying for loans because they feared being turned down due to prejudice or discrimination. We also found that loan denial rates are significantly higher for African American-owned firms than for nonminority male-owned firms even after taking into account differences in an extensive array of measures of creditworthiness and other characteristics. This result appears to be largely insensitive to geographic location or to changes in econometric specification. Comparable findings are observed for other minority business owners and for nonminority women as well, although not with as much consistency as the findings for African Americans.

¹⁵⁴ In the Boston Fed study, 10 percent of White mortgage applications were rejected compared with 28 percent for African Americans. Loan denial rates (weighted) for business credit in this study ranged from 8.3 to 26.2 percent for White males and between 50.0 and 65.9 percent for African American-owned firms (depending on which NSSBF or SSBF survey is used).

¹⁵⁵ The gap in denial rates between African Americans and nonminorities with similar characteristics is between 34-46 percentage points in the small business credit market compared with 7 percentage points in the mortgage market.

Overall, the evidence is consistent that African American-owned firms and other M/WBE firms face large and statistically significant disadvantages in the market for small business credit. The larger size and significance of the effects found in our analyses (compared to mortgage market analyses) significantly reduces the possibility that the observed differences can be explained away by some quirk of the econometric estimation procedure and, instead, strongly suggests that the observed differences are consistent with the presence of discrimination.

L. Evidence of Credit Market Discrimination from 2008 and Beyond

As noted above, the Federal Reserve abolished the SSBF prior to releasing results from 2008, and the most recent NERA survey on credit access was conducted in 2007. Economist Alicia Robb, in her article “Beyond the late, lamented Survey of Small Business Finance,” notes:

A few years ago, the [SSBF], the main source of data on small business financing, was cancelled by the Federal Reserve Board. The SSBF had provided detailed information on the use of credit and other financial services by small businesses every five years beginning in 1987. There are no data available after 2003. The Federal Reserve stated the survey was cancelled for financial reasons and the survey had been conducted four times in varying economic conditions. Yet, less than a year after the cancellation, the worst financial crisis hit the United States since the Great Depression. Unfortunately, the nation now has no demand-side data to investigate the impact of this financial crisis on small business financing or firm performance. . . . It is ironic that a survey that could shed light on the impact of a financial crisis on the state of small business financing was cancelled due to budgetary concerns when the government has spent hundreds of billions of dollars on other matters arising from the crisis. The survey cost about \$6 million dollars over a five-year survey period, more of a rounding error to the Fed than a significant investment. What a pity that we have no data for 2008—a year of great interest for policy purposes.¹⁵⁶

Given this, what can we say about evidence of M/WBE disparities in access to capital and credit during the period subsequent to 2007? Although the negative impact of the loss of the SSBF cannot be overstated, Dr. Robb and others have worked to fill the void using analyses on a unique data set known as the Kauffman Firm Survey (“KFS”). As mentioned above, the KFS is the largest and longest longitudinal survey of new businesses in the world, and followed a large sample of small businesses for eight years, from their inception in 2004 through 2011.

Robb (2013) uses data from the 2004-2010 cohort of KFS firms to examine the financing patterns of firms during their first years of operation. Key findings from this study include:

- Differences in asset levels are the largest single factor explaining racial disparities in business creation rates. Half of all Hispanic families in 2004 had less than \$13,375 in wealth and half of all African American families in 2004 had less than \$8,650 in wealth. These figures were 12 percent and 8 percent, respectively, of nonminority wealth levels (Robb, 2013, pp. 5-6).

¹⁵⁶ Robb (2010).

- There is evidence that during times of financial distress, bank lending is curtailed, especially to firms that appear inherently more risky, such as minority-owned and women-owned firms (*Ibid.* at 7, citing Caballero and Krishnamurthy, 2008; Ivashina and Scharfstein, 2010).
- During 2007-2010, young firms owned by African Americans, Hispanics, and women were statistically significantly less likely than similarly situated nonminority firms to apply for credit when they needed it for fear of denial. Robb (2013, p. 23) notes: “This is perhaps the clearest recent evidence of continued borrowing constraints for Black and Hispanic business owners in the United States. Women were also more likely than men to have this fear during the economic crisis.”
- During 2007-2010, when they did apply for credit, young African American- and Hispanic-owned firms were statistically significantly more likely to have their loans denied than nonminority-owned firms with comparable levels of creditworthiness (*Ibid.* at 25).
- Moreover, the magnitude of minority denials “increased dramatically” during the 2007-2010 period and through the financial crisis (*Ibid.*).
- Women-owned firms were also more likely to be denied than nonminority male firms with comparable creditworthiness levels although the differences were not always statistically significant (*Ibid.*).

Robb (2013) concludes:

The analysis...suggests minority owners who did not apply for new loans were significantly more likely than their White counterparts to avoid applying for loans when needed because they were afraid that their loan applications would be declined by lenders. This is even after controlling for credit quality and a host of owner and firm characteristics. Women were also more likely than similar men not to apply for credit when it was needed for fear of having their loan application denied during the years of the economic crisis. The analysis showed that women and minority business owners’ fears of being declined for a loan were not necessarily unwarranted. In particular, in terms of loan application outcomes, even after controlling for such factors as industry, credit score, legal form, and human capital, minority owners of young firms were significantly less likely to have their loan applications approved than were similar White business owners. Similarly, in 2008, women owners of new businesses were significantly less likely than men with similar credit profiles and legal forms of organization to be approved for loans. More generally, the results suggest that in the initial year of startup, Black- and Hispanic-owned businesses faced greater credit constraints than did their White and Asian counterparts. Similarly, women-owned businesses faced greater credit constraints than did similar startups owned by men during the years of the financial crisis (*Ibid.* at 31-32).

Robb, *et al.* (2010) use data from the 2004-2008 KFS cohort to examine differences in external financing among African American- and nonminority-owned firms to determine if African

Americans received smaller loans after starting up. Controlling for both firm and owner characteristics, including credit scores and owner wealth, they found that adverse disparities in the amounts of financing persisted, with race being the strongest single determinant of loan size.

Bates and Robb (2013) provide an overview of the major issues and debates that continue to the present day regarding discrimination in commercial credit access. They conclude:

Limited access to financing restricts the ability of [MBEs] to achieve viability, to generate new jobs, and, generally, to reach their full potential to contribute to the economic development of the communities and regions in which they operate. Although MBEs rely more heavily on financial institutions for loans than all other borrowing sources combined, they experience higher costs than White firms when they borrow, receive smaller loans, and have their loan applications rejected more often. ... The federal government needs to prosecute financial institutions that discriminate against MBEs on the basis of borrower race. Local governments can assist by weighing bank-lending activity in local minority communities when choosing the local banks with which they do business. Prompt payment of MBE vendor invoices by public-sector clients is needed (Bates and Robb, 2013, p. 1).

Noting that urban minority-owned businesses are heavily concentrated in relatively segregated neighborhoods, Bates and Robb (2016) examined whether loan denial disparities were attributable to race, to location, or to both. Using the 2004-2011 cohort from the KFS data to disentangle the interaction of race and location, they conclude that:

[Our] findings suggest that banks engage in discriminatory practices limiting credit availability to MBEs. Controlling for risk factors, however, firm location in a minority or inner-city neighborhood has no apparent impact on loan availability or size. Owner race/ethnicity, in contrast, is important. Subtle processes discourage MBEs from seeking bank loans. Owner race and wealth both powerfully shape loan access: high wealth opens doors, minority ownership closes them (Bates and Robb, 2016, p. 159).

Post-2007 evidence is also provided by sources other than the KFS. In addition to their own findings, Bates and Robb (2016) also report on the findings of Bone, *et al.* (2014) who conducted a paired testing, or audit, study of small business credit access and race. Bates and Robb (2016) summarize:

A common initial objective of firm owners seeking business loans is to identify bank-lending criteria. In their audit study of small business owners seeking bank loans, Bone, [*et al.* (2014)] focused directly on this inquiry stage and found that Black and Latino owners were treated differently than matched Whites. Typifying audit studies, the White and minority testers were matched regarding age, gender, credit history, personal net worth, characteristics of the loans being sought, and other traits, and their differential treatment was strongly consistent with minority owners being treated worse than Whites. ... In comparison to White testers, minorities were more often asked to provide business financial statements (83% vs. 50%), income tax returns (86% vs. 52%), bank account information (25% vs. 0%), personal financial asset details (60% vs. 22%), and credit card debt (42% vs. 13%). Additionally, minorities were offered less frequent assistance than

Whites in completing loan applications (18% vs. 59%), and loan officers offered business cards to minority testers less often (43% vs. 82%). Overall, minorities were consistently offered less assistance and subjected to greater scrutiny, in comparison with the White testers (Bates and Robb, 2016, p. 160, referencing Bone, *et al.*, 2014).

[These audit] study findings ... indicate that starkly differential treatment [by race] is real in the experiences of minorities investigating small-business financing sources. By themselves, these findings provide no direct evidence of racial reservation price differentials regarding loan terms. What they do provide is audit study evidence of minorities being treated badly, compared with Whites. In this sense, they confirm, with control-group precision, past findings that banks treat MBEs badly, relative to equally creditworthy Whites. Studies using regression analysis to demonstrate disproportionate bank rejection of minority loan applicants, their unfavorable loan terms, and high discouraged-borrower incidence are all subject to omitted variable-bias criticisms No such criticisms apply to the [Bone *et al.* 2014] audit study findings (Bates and Robb, 2016, p. 162, referencing Bone, *et al.*, 2014).

The findings of Robb (2013), Robb, *et al.* (2010), Bates and Robb (2013), Bates and Robb (2016), and Bone, *et al.* (2014) are consistent with the findings reported above in this chapter from the SSBF and from NERA's own surveys. There is no evidence to suggest that credit discrimination has lessened in the years since 2007. Indeed, the available evidence suggests that credit discrimination has continued and, if anything, worsened during and subsequent to the recent financial crisis.

VI. M/WBE Utilization and Disparity in State of Maryland Contracting Activity

A. Introduction

The *Croson* decision and its progeny have held that statistical evidence of race-based or gender-based disparities in business enterprise activity is a requirement for any state or local entity that desires to establish or maintain race-conscious or gender-conscious requirements for M/WBE participation in contracting and procurement. Chapters IV and V documented several specific disparities facing minority- and women-owned firms in the private sector of the State of Maryland's market area, where contracting and procurement activity is generally *not* subject to such requirements. In this chapter, we combined the evidence from Chapter III, which estimates M/WBE availability in the State of Maryland Market Area, with the Master Contract/Subcontract Database described in Chapter II, in order to examine whether there is statistical evidence of disparities in the State's own contracting activity.

The statistical evidence reported in Chapter II has already established from which specific industries the State of Maryland procures goods and services as well as from which geographic areas it draws the majority of its prime contractors and subcontractors. In addition, the statistical evidence reported in Chapter III has established what percentage of all firms in the State's geographic and product markets are M/WBEs.

To determine whether M/WBEs have been underutilized on contracting by the State of Maryland, we should ideally examine public expenditures that were *not* subject to goals. The State has a long and well established policy of setting goals on many of its contracting activities, especially in the areas of Construction and AE-CRS. Given this, the data for State contracts with subcontracting goals may not show evidence of underutilization, even if such underutilization exists in the private sector of the State's relevant market area. Instead, the data on such contracts is most informative for examining the effectiveness of the State's efforts during the study time period to encourage M/WBE utilization.

If State of Maryland M/WBE utilization is still significantly less than M/WBE availability, particularly on such contracts for which no subcontracting goals were established, then that data would be consistent with the persistence of discrimination, in conjunction with the private sector data examined in Chapters IV, V and VII.

This chapter, therefore, will document:

- To what extent have M/WBEs been utilized in the contracting and subcontracting activities of the State of Maryland during the study period.
- To what extent does a disparity exist, if any, between M/WBE utilization and M/WBE availability in the relevant market area.
- Whether M/WBE utilization and disparity ratios differ between contracts where M/WBE goals were established and contracts where such goals were not established.

The M/WBE utilization results below are reported using two different, but related, measures—dollars awarded and dollars paid. We report this information for Construction, AE-CRS, Maintenance, IT, Services, CSE, and for all six categories combined. Results for M/WBEs are reported by race and gender as well as for minorities as a group and for all minorities and women combined.

B. M/WBE Utilization for All Contracting Dollars

For this Study, we examined 16,931 prime contracts or purchase orders and 35,675 associated subcontracts active during state fiscal years 2010-2014. These contracts and purchases had a total award value of \$22.27 billion and a total paid value of \$13.41 billion.¹⁵⁷ NAICS codes, M/WBE status, and detailed race and gender status for the prime contractors and subcontractors included in the Master Contract/Subcontract Database were established through extensive computer-assisted cross-referencing of firms in our database with firms in the (a) Maryland Department of Transportation Directory of Certified Firms; (b) the master directory of M/WBEs assembled for this study;¹⁵⁸ (c) Dun & Bradstreet; (d) company profiles drawn from American Business Information, Standard & Poor's, and other sources; and (e) the results of our race/gender misclassification/non-classification surveys.¹⁵⁹

1. Utilization Across All Contracts

From Tables 6.1 and 6.2 we see that, as a group during the study period, M/WBEs were awarded 19.98 percent and paid 19.15 percent of all contract and subcontract dollars in Construction; awarded 28.58 percent and paid 28.99 percent of all contract and subcontract dollars in AE-CRS; awarded 14.78 percent and paid 18.33 percent of all contract and subcontract dollars in Maintenance; awarded 34.47 percent and paid 41.67 percent of all contract and subcontract dollars in IT; awarded 11.75 percent and paid 11.19 percent of all contract and subcontract dollars in Services; and awarded 7.12 percent and paid 7.26 percent of all contract and subcontract dollars in CSE. Altogether, M/WBEs were awarded 18.57 percent and paid 18.51 percent of all contract and subcontract dollars during the study period. Among M/WBEs, firms owned by nonminority females were awarded the largest fraction of contracting and subcontracting dollars (both awarded and paid), followed in descending order by firms owned by African Americans, Asians, Hispanics, and Native Americans.

¹⁵⁷ Payments on contracts that were not substantially complete at the time of the Study data collection were excluded from the paid dollar totals. *See also* footnote 36.

¹⁵⁸ *See* Chapter III, Section B.2, for more information on how NERA's master directory was compiled.

¹⁵⁹ *See* Chapter III, Section B, for more information on the misclassification/non-classification surveys.

M/WBE Utilization and Disparity in State of Maryland Contracting Activity

Table 6.1. M/WBE Utilization at the State of Maryland–All Contracts (Dollars Awarded)

M/WBE Type	Procurement Category						
	Construction (%)	AE-CRS (%)	Maintenance (%)	IT (%)	Services (%)	CSE (%)	Overall (%)
African American	5.20	4.59	4.53	5.12	6.93	0.91	5.14
Hispanic	4.33	1.51	1.48	6.45	0.71	0.83	2.74
Asian	2.60	14.91	0.80	16.71	0.79	2.40	4.65
Native American	0.43	0.06	0.05	0.10	0.01	0.04	0.19
Minority Total	12.55	21.07	6.86	28.39	8.44	4.18	12.72
Nonminority female	7.43	7.51	7.91	6.08	3.31	2.94	5.85
M/WBE Total	19.98	28.58	14.78	34.47	11.75	7.12	18.57
Non-M/WBE Total	80.02	71.42	85.22	65.53	88.25	92.88	81.43
Total (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total (\$)	8,422,190,102	2,544,538,584	1,427,160,377	1,977,040,832	5,853,224,032	2,048,499,182	22,272,653,109
Prime Contracts	1,900	691	1,456	1,291	2,154	9,439	16,931
Subcontracts	25,030	2,539	2,246	690	3,761	1,409	35,675

Source: NERA Master Contract/Subcontract Database. Note: Figures are rounded. Rounding was performed subsequent to any mathematical calculations.

Table 6.2. M/WBE Utilization at the State of Maryland –All Contracts (Dollars Paid)

M/WBE Type	Procurement Category						
	Construction (%)	AE-CRS (%)	Maintenance (%)	IT (%)	Services (%)	CSE (%)	Overall (%)
African American	5.05	4.53	6.81	6.54	7.10	0.99	4.99
Hispanic	3.79	1.47	3.00	9.97	1.25	1.00	3.02
Asian	2.44	15.55	1.34	20.52	0.34	2.44	4.45
Native American	0.38	0.06	0.03	0.00	0.02	0.05	0.21
Minority Total	11.66	21.61	11.18	37.03	8.70	4.47	12.66
Nonminority female	7.49	7.38	7.15	4.64	2.49	2.79	5.84
M/WBE Total	19.15	28.99	18.33	41.67	11.19	7.26	18.51
Non-M/WBE Total	80.85	71.01	81.67	58.33	88.81	92.74	81.49
Total (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total (\$)	6,767,135,431	1,536,406,206	356,061,208	682,925,936	2,440,087,984	1,631,017,251	13,413,634,017
Prime Contracts	1,666	691	1,324	1,191	1,971	9,439	16,282
Subcontracts	22,064	2,539	1,271	410	2,310	1,409	30,003

Source and Notes: See Table 6.1.

Non-M/WBEs were awarded and paid the vast majority of contract and subcontract dollars in all categories. Non-M/WBEs received approximately 80 percent of Construction awards, 71 percent of AE-CRS awards, 85 percent of Maintenance awards, 66 percent of IT awards, 88 percent of Services awards, 93 percent of CSE awards, and 81 percent of awards overall. Measured by payments, non-M/WBEs received approximately 81 percent of Construction payments, 71 percent of AE-CRS payments, 82 percent of Maintenance payments, 58 percent of IT payments, 89 percent of Services payments, 93 percent of CSE payments, and 81 percent of payments overall.

2. Contracts With Goals versus Contracts Without Goals

Across and within procurement categories as well as M/WBE groups, M/WBE utilization in general is statistically significantly lower when no M/WBE goals are established for contracts than when they are. The State of Maryland data in this regard strongly suggest that without the State MBE Program, M/WBE participation in State contracting would be greatly diminished.

The prime contract records that NERA received from the State contain fields indicating whether or not an MBE goal was established for a particular contract. However, this information was not always recorded by the respective State agencies in our Study. Of the 16,931 prime contracts in our database, only 50.4 percent included data regarding MBE goals. However, these 50.4 percent of prime contracts accounted for 88.6 percent of all award dollars and 87.8 percent of all paid dollars. A similar pattern was in each major procurement category as well:¹⁶⁰

- Of 1,655 contracts in Construction with MBE goal data, 1,396 (84.5%) had M/WBE goals, and those contracts accounted for 97.2 percent of dollars awarded and 97.9 percent of dollars paid.
- Of 532 contracts analyzed in AE-CRS with MBE goal data, 391 (73.5%) had M/WBE goals, and those contracts accounted for 99.3 percent of dollars awarded and 99.3 percent of dollars paid.
- Of 1,070 contracts analyzed in Maintenance with MBE goal data, 166 (15.5%) had M/WBE goals, and those contracts accounted for 82.8 percent of dollars awarded and 80.7 percent of dollars paid.
- Of 477 contracts analyzed in IT with MBE goal data, 98 (20.6%) had M/WBE goals, and those contracts accounted for 79.0 percent of dollars awarded and 76.2 percent of dollars paid.
- Of 776 contracts analyzed in Services with MBE goal data, 190 (24.5%) had M/WBE goals, and those contracts accounted for 71.8 percent of dollars awarded and 66.9 percent of dollars paid.

¹⁶⁰ We also observed two types of contracts where the master contract was made by DGS or DBM and typically had MBE goals, but purchases by other agencies from these master contracts were recorded as if they did not have goals. We removed these records from the analysis so as not to bias the results. We also removed Emergency contracts.

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- Of 3,736 contracts analyzed in CSE with MBE goal data, 148 (4.0%) had M/WBE goals, and those contracts accounted for 29.2 percent of dollars awarded and 31.0 percent of dollars paid.
- Of 8,246 contracts analyzed overall with MBE goal data, 2,389 (29.0%) had M/WBE goals, and those contracts accounted for 83.7 percent of dollars awarded and 84.3 percent of dollars paid.

Table 6.3 shows the M/WBE utilization percentage on contracts with goals compared to contracts without goals. The figures are provided overall and for each of the six major procurement categories. They are shown for M/WBEs as a group, minorities as a group, and for each individual M/WBE type. M/WBE utilization is larger on contracts with goals than on contracts without goals in 80 percent of all cases (78 of 97 comparisons). These differences are also statistically significant in 76 percent of all cases (74 of 97 cases), meaning that it is unlikely the differences can be attributed to chance variation alone.

Table 6.3. M/WBE Utilization at the State of Maryland—Contracts with M/WBE Goals versus Contracts without M/WBE Goals

M/WBE Type	Dollars Awarded		Dollars Paid	
	M/WBE Utilization (%) with goals	M/WBE Utilization (%) without goals	M/WBE Utilization (%) with goals	M/WBE Utilization (%) without goals
OVERALL				
African American	5.6	1.6	5.2	1.5
Hispanic	5.0	1.0	4.7	1.0
Asian	4.8	3.0	4.9	2.9
Native American	0.32	0.05	0.31	0.06
Minority Total	15.8	5.6	15.1	5.5
Nonminority female	10.3	3.2	10.5	3.2
M/WBE Total	26.1	8.9	25.6	8.7
CONSTRUCTION				
African American	5.2	2.2	5.3	2.2
Hispanic	6.6	0.6	6.3	0.7
Asian	2.6	0.1	2.5	0.1
Native American	0.52	0.01	0.49	0.00
Minority Total	15.0	2.9	14.6	2.9
Nonminority female	11.1	6.7	11.1	7.4
M/WBE Total	26.0	9.5	25.7	10.4

M/WBE Utilization and Disparity in State of Maryland Contracting Activity

M/WBE Type	Dollars Awarded		Dollars Paid	
	M/WBE Utilization (%) with goals	M/WBE Utilization (%) without goals	M/WBE Utilization (%) with goals	M/WBE Utilization (%) without goals
AE-CRS				
African American	3.6	1.3	3.4	1.6
Hispanic	2.05	1.80	2.24	2.19
Asian	12.5	19.9	12.9	17.3
Native American	0.04	0.00	0.03	0.00
Minority Total	18.2	23.0	18.5	21.1
Nonminority female	8.6	3.2	9.7	3.6
M/WBE Total	26.8	26.1	28.2	24.7
MAINTENANCE				
African American	10.1	3.8	8.6	3.8
Hispanic	5.2	4.9	4.3	5.2
Asian	2.7	1.3	3.7	1.3
Native American	0.06	0.22	0.10	0.25
Minority Total	18.0	10.3	16.7	10.6
Nonminority female	10.9	3.0	11.8	2.1
M/WBE Total	28.9	13.3	28.5	12.7
IT				
African American	7.6	1.2	9.7	0.7
Hispanic	8.5	1.6	7.6	1.3
Asian	22.7	15.3	22.1	14.2
Native American	0.01	0.00	0.00	0.00
Minority Total	38.8	18.2	39.5	16.1
Nonminority female	8.6	2.6	7.8	1.5
M/WBE Total	47.4	20.8	47.3	17.7
SERVICES				
African American	12.2	2.7	9.6	2.8
Hispanic	1.2	0.5	0.9	0.4
Asian	0.7	2.3	0.3	2.0
Native American	0.03	0.17	0.06	0.20
Minority Total	14.1	5.7	10.9	5.3
Nonminority female	7.3	6.0	4.2	5.8
M/WBE Total	21.5	11.8	15.1	11.2

M/WBE Type	Dollars Awarded		Dollars Paid	
	M/WBE Utilization (%) with goals	M/WBE Utilization (%) without goals	M/WBE Utilization (%) with goals	M/WBE Utilization (%) without goals
CSE				
African American	0.62	0.79	0.84	0.78
Hispanic	0.2	0.0	0.2	0.0
Asian	0.9	1.8	1.0	1.9
Native American	n/a	n/a	n/a	n/a
Minority Total	1.6	2.7	2.0	2.7
Nonminority female	12.2	2.7	11.9	2.9
M/WBE Total	13.9	5.3	13.9	5.6

Notes: (1) We conducted a series of t-tests on the percentage of dollars awarded and paid on contracts for which the State of Maryland established MBE goals versus those on which no such goals were set. Figures in **boldface** type are statistically significant within a 95% or better confidence interval. Figures in **boldface italicized** type are significant within a 90% or better confidence interval. Figures in *italicized* type are significant within an 85% or better confidence interval; (2) “n/a” means no contracts or subcontracts were observed in this category.

When M/WBE goals *are* established, not only is M/WBE utilization greater—in many cases it is *substantially* greater. For example, Table 6.3 shows that M/WBE utilization on Construction contracts is, on average, more than three times greater when goals are established than when they are not. With only a small number of exceptions, similar differences are observed across all procurement categories and across all M/WBE types.

C. M/WBE Disparity Analysis for All Contracting Dollars

1. Results by Major Procurement Category

In this section, we compare our estimates of M/WBE utilization in the State of Maryland’s contracting and subcontracting activities to our estimates of M/WBE availability in the relevant geographic and product market area. Tables 6.4 and 6.5 present the results of this comparison for all prime contracts and purchase orders examined during the study period, using dollars awarded and dollars paid, respectively, as the metric of utilization.

In each of these tables, the figures in the utilization column include both prime contract and subcontract dollars and were derived as described above in this chapter. The figures in the availability column were derived as described in Chapter III. The disparity ratio, which appears in the final column of each table, is derived by dividing utilization by availability and then multiplying the result by 100. A disparity ratio below 100 indicates that M/WBEs did not participate in State of Maryland contracting and subcontracting at a level that is consistent with their estimated availability in the relevant market area. A disparity ratio is said to be substantively significant, or large, if its value is approximately 80 or less. A disparity ratio is said

to be statistically significant if it is unlikely to be caused by chance alone.¹⁶¹ In the tables below, statistical significance is indicated by one or more asterisks to the right of the disparity ratio.

When all procurement categories are combined, Tables 6.4 and 6.5 show that adverse disparities are observed for firms owned by African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group. These disparities are large for African Americans, Hispanics, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group; and they are statistically significant for African Americans, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group.

In Construction, adverse disparities are observed for firms owned by African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group. These disparities are large for African Americans, Hispanics (paid dollars only), Native Americans, minorities as a group, nonminority females, and M/WBEs as a group; and they are statistically significant for African Americans, Hispanics (paid dollars only), Native Americans (paid dollars only), minorities as a group, nonminority females, and M/WBEs as a group.

In AE-CRS, adverse disparities are observed for firms owned by African Americans, Hispanics, Native Americans, nonminority females, and M/WBEs as a group (award dollars only). These disparities are large for African Americans, Hispanics, Native Americans, and nonminority females; and they are statistically significant for African Americans, Hispanics (paid dollars only), Native Americans, and nonminority females.

In Maintenance, adverse and large disparities are observed for firms owned by African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group. These disparities are statistically significant for African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group.

In IT, adverse disparities are observed for firms owned by African Americans, Native Americans, minorities as a group (award dollars only), nonminority females and M/WBEs as a group. Large disparities are observed for firms owned by African Americans, Native Americans, nonminority females, and M/WBEs as a group (award dollars only). These disparities are statistically significant for African Americans, Native Americans, minorities as a group (award dollars only), nonminority females, and M/WBEs as a group.

In Services, adverse and large disparities are observed for firms owned by African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group. These disparities are statistically significant for African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group.

In CSE, adverse and large disparities are observed for firms owned by African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and M/WBEs

¹⁶¹ See Appendix A below, “Constitutional significance or substantive significance.”

M/WBE Utilization and Disparity in State of Maryland Contracting Activity

as a group. These disparities are statistically significant for African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and M/WBEs as a group.

Table 6.4. Utilization, Availability, and Disparity Results for State of Maryland, Overall and by Contracting Category–All Contracts (Dollars Awarded)

Contracting Category & M/WBE Type	Utilization	Availability	Disparity Ratio
OVERALL			
African American	5.14	11.61	44.3 ****
Hispanic	2.74	3.59	76.2
Asian	4.65	5.41	86.0
Native American	0.19	1.04	18.2 ****
Minority-owned	12.72	21.64	58.8 ****
Nonminority female	5.85	14.24	41.1 ****
M/WBE total	18.57	35.89	51.7 ****
CONSTRUCTION			
African American	5.20	10.66	48.7 ****
Hispanic	4.33	4.91	88.2
Asian	2.60	2.65	97.9
Native American	0.43	0.77	56.0
Minority-owned	12.55	18.99	66.1 ****
Nonminority female	7.43	13.94	53.3 ****
M/WBE total	19.98	32.93	60.7 ****
AE-CRS			
African American	4.59	8.61	53.3 ****
Hispanic	1.51	2.22	68.0
Asian	14.91	4.82	
Native American	0.06	1.22	4.8 ****
Minority-owned	21.07	16.87	
Nonminority female	7.51	12.16	61.8 ****
M/WBE total	28.58	29.02	98.5
MAINTENANCE			
African American	4.53	13.87	32.7 ****
Hispanic	1.48	4.78	31.0 ****
Asian	0.80	3.48	23.0 ****
Native American	0.05	1.87	2.6 ****
Minority-owned	6.86	23.99	28.6 ****
Nonminority female	7.91	12.44	63.6 ****
M/WBE total	14.78	36.44	40.6 ****
IT			
African American	5.12	15.55	32.9 ****
Hispanic	6.45	3.53	
Asian	16.71	13.01	
Native American	0.10	1.20	8.6 ****
Minority-owned	28.39	33.29	85.3 **
Nonminority female	6.08	13.26	45.9 ****
M/WBE total	34.47	46.55	74.0 ****

M/WBE Utilization and Disparity in State of Maryland Contracting Activity

Contracting Category & M/WBE Type	Utilization	Availability	Disparity Ratio
SERVICES			
African American	6.93	13.52	51.3 ****
Hispanic	0.71	3.08	23.1 ****
Asian	0.79	5.53	14.3 ****
Native American	0.01	1.06	1.0 ****
Minority-owned	8.44	23.19	36.4 ****
Nonminority female	3.31	17.67	18.7 ****
M/WBE total	11.75	40.86	28.7 ****
CSE			
African American	0.91	10.50	8.7 ****
Hispanic	0.83	3.24	25.6 ****
Asian	2.40	6.10	39.4 ****
Native American	0.04	0.85	4.3 ****
Minority-owned	4.18	20.70	20.2 ****
Nonminority female	2.94	13.02	22.6 ****
M/WBE total	7.12	33.71	21.1 ****

Source: Calculations from NERA Master Contract/Subcontract Database and NERA Baseline Business Universe.

Notes: (1) “*” indicates an adverse disparity that is statistically significant at the 15% level or better (85% confidence). “**” indicates the disparity is significant at a 10% level or better (90% confidence). “***” indicates significance at a 5% level or better (95% confidence). “****” indicates significance at a 1% level or better (99% confidence). (2) An empty cell in the Disparity Ratio column indicates that no adverse disparity was observed for that category.

Table 6.5. Utilization, Availability, and Disparity Results for State of Maryland Contracting, Overall and by Contracting Category–All Contracts (Dollars Paid)

Contracting Category & M/WBE Type	Utilization	Availability	Disparity Ratio
OVERALL			
African American	4.99	11.18	44.6 ****
Hispanic	3.02	3.84	78.5
Asian	4.45	4.65	95.6
Native American	0.21	1.03	20.5 ****
Minority-owned	12.66	20.70	61.2 ****
Nonminority female	5.84	14.04	41.6 ****
M/WBE total	18.51	34.75	53.3 ****
CONSTRUCTION			
African American	5.05	10.26	49.2 ****
Hispanic	3.79	5.10	74.3 **
Asian	2.44	2.68	90.7
Native American	0.38	0.79	48.8 ***
Minority-owned	11.66	18.83	61.9 ****
Nonminority female	7.49	13.65	54.9 ****
M/WBE total	19.15	32.48	59.0 ****
AE-CRS			
African American	4.53	8.46	53.5 ****
Hispanic	1.47	2.21	66.5 *
Asian	15.55	4.83	
Native American	0.06	1.23	4.7 ****
Minority-owned	21.61	16.73	
Nonminority female	7.38	11.93	61.9 ****
M/WBE total	28.99	28.66	
MAINTENANCE			
African American	6.81	16.16	42.1 ****
Hispanic	3.00	5.42	55.4 ****
Asian	1.34	3.52	37.9 ****
Native American	0.03	2.22	1.4 ****
Minority-owned	11.18	27.33	40.9 ****
Nonminority female	7.15	13.49	53.0 ****
M/WBE total	18.33	40.82	44.9 ****
IT			
African American	6.54	15.54	42.1 ****
Hispanic	9.97	3.55	
Asian	20.52	12.67	
Native American	0.00	1.19	0.0 ****
Minority-owned	37.03	32.95	
Nonminority female	4.64	13.43	34.5 ****
M/WBE total	41.67	46.37	89.8 **

Contracting Category & M/WBE Type	Utilization	Availability	Disparity Ratio
SERVICES			
African American	7.10	13.92	51.0 ****
Hispanic	1.25	2.91	42.9 ****
Asian	0.34	4.82	7.0 ****
Native American	0.02	1.15	1.5 ****
Minority-owned	8.70	22.79	38.2 ****
Nonminority female	2.49	18.18	13.7 ****
M/WBE total	11.19	40.97	27.3 ****
CSE			
African American	0.99	10.78	9.2 ****
Hispanic	1.00	3.15	31.7 ****
Asian	2.44	6.33	38.5 ****
Native American	0.05	0.83	5.5 ****
Minority-owned	4.47	21.09	21.2 ****
Nonminority female	2.79	13.20	21.1 ****
M/WBE total	7.26	34.29	21.2 ****

Source and Notes: See Table 6.4.

2. Detailed Industry Level Results

Utilization, availability and disparity results comparable to those presented above in Tables 6.4 and 6.5 have also been produced according to detailed Industry Groups. In the interest of space, these tables are presented in Appendix E.

D. Current Availability versus Expected Availability

Finally, Table 6.6 provides a comparison between current levels of M/WBE availability for the State of Maryland and levels that we would expect to observe in a race- and gender-neutral market area. The latter, referred to as “expected availability,” is derived by dividing the current availability figures, as documented in Table 3.15, by the disparity ratios documented in column (3) of Table 4.24. If no business formation disparity is present in the relevant market area, the disparity ratio will be equal to 100 and expected availability will be equivalent to current availability. In cases where adverse business formation disparities are present in the relevant market area, the disparity ratio will be less than 100 and, consequently, expected availability will exceed current availability.

Expected M/WBE availability in the State of Maryland’s market area exceeds current M/WBE availability by substantial margins in 88 of 98 cases, or 90 percent.

Table 6.6. Current Availability and Expected Availability for State of Maryland Contracting

Contracting Category & M/WBE Type	Award Dollar Weights		Paid Dollar Weights	
	Current Availability (%)	Expected Availability (%)	Current Availability (%)	Expected Availability (%)
OVERALL				
African American	11.61	16.10	11.18	15.50
Hispanic	3.59	4.19	3.84	4.48
Asian	5.41	5.36	4.65	4.61
Native American	1.04	1.45	1.03	1.44
Minority	21.64	26.79	20.70	25.63
Nonminority female	14.24	16.46	14.04	16.23
M/WBE total	35.89	44.72	34.75	43.30
CONSTRUCTION				
African American	10.66	19.67	10.26	18.93
Hispanic	4.91	6.75	5.10	7.01
Asian	2.65	2.15	2.68	2.17
Native American	0.77	1.15	0.79	1.18
Minority	18.99	28.03	18.83	27.80
Nonminority female	13.94	20.72	13.65	20.29
M/WBE total	32.93	49.02	32.48	48.35
AE-CRS				
African American	8.61	14.40	8.46	14.14
Hispanic	2.22	3.18	2.21	3.16
Asian	4.82	7.41	4.83	7.42
Native American	1.22	1.97	1.23	1.99
Minority	16.87	25.33	16.73	25.12
Nonminority female	12.16	17.93	11.93	17.59
M/WBE total	29.02	45.66	28.66	45.10
MAINTENANCE				
African American	13.87	24.68	16.16	28.75
Hispanic	4.78	6.09	5.42	6.91
Asian	3.48	5.15	3.52	5.21
Native American	1.87	2.51	2.22	2.98
Minority	23.99	33.49	27.33	38.15
Nonminority female	12.44	17.68	13.49	19.17
M/WBE total	36.44	51.82	40.82	58.05
IT				
African American	15.55	28.27	15.54	28.25
Hispanic	3.53	4.35	3.55	4.38
Asian	13.01	15.58	12.67	15.18
Native American	1.20	1.89	1.19	1.87
Minority	33.29	47.02	32.95	46.54
Nonminority female	13.26	15.43	13.43	15.63
M/WBE total	46.55	61.71	46.37	61.47

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Contracting Category & M/WBE Type	Award Dollar Weights		Paid Dollar Weights	
	Current Availability (%)	Expected Availability (%)	Current Availability (%)	Expected Availability (%)
SERVICES				
African American	13.52	21.47	13.92	22.11
Hispanic	3.08	3.77	2.91	3.56
Asian	5.53	5.03	4.82	4.39
Native American	1.06	1.69	1.15	1.84
Minority	23.19	29.60	22.79	29.09
Nonminority female	17.67	19.01	18.18	19.56
M/WBE total	40.86	50.09	40.97	50.23
CSE				
African American	10.50	14.78	10.78	15.18
Hispanic	3.24	3.75	3.15	3.64
Asian	6.10	5.67	6.33	5.89
Native American	0.85	1.10	0.83	1.07
Minority	20.70	24.15	21.09	24.61
Nonminority female	13.02	15.08	13.20	15.29
M/WBE total	33.71	40.45	34.29	41.15

Source: See Tables 3.15 and 4.24.

VII. Anecdotal Evidence of Disparities in the State of Maryland Market Area

A. Introduction

We have presented a variety of economic and statistical findings above that are consistent with, and indicative of, the presence of business discrimination against minorities and women in the geographic and product markets that are relevant to the State of Maryland's contracting and procurement activities. Chapters IV and V, in particular, have documented large and statistically significant disparities in the State's relevant markets adversely impacting the competitiveness and utilization of minority and female entrepreneurs. In most cases, commercial loan denial rates were higher, the cost of credit was higher, business formation rates are lower, and business owner earnings are lower—even when comparisons are restricted to similarly situated businesses and business owners.

As a complement to these quantitative findings, we gathered anecdotal evidence regarding disparities, perceived barriers, and differences in treatment of business owners on the basis of race and/or gender in the State of Maryland's market area. First, we conducted a large scale survey of business establishments in the market area—both M/WBE and non-M/WBE—and asked owners directly about their experiences, if any, with contemporary business-related acts of discrimination. We find that M/WBEs in the State's markets report suffering business-related discrimination in substantial numbers and often with statistically significantly greater frequency than non-M/WBEs (*See* Tables 7.3 and 7.4). These differences tend to remain substantial when firm size and owner characteristics are held constant (*See* Tables 7.5 and 7.6). Additionally, we find that M/WBE firms that have been hired in the past by non-M/WBE prime contractors to work on public sector contracts with M/WBE goals often are not hired—or even solicited—by these prime contractors to work on projects without M/WBE goals (*See* Tables 7.9 and 7.10). The relative lack of M/WBE hiring and, even more significantly, the relative lack of solicitation of M/WBEs in the absence of affirmative efforts by the State of Maryland and other public entities in the relevant market area, shows that business discrimination continues to fetter M/WBE business opportunities. We conclude that the statistical evidence presented in this Study is consistent with these anecdotal accounts of contemporary business discrimination.

The remainder of this chapter is organized as follows. We first discuss the mail survey results in Section B. In Section B.1, we discuss the survey questionnaire, sample frame, and response rate. Section B.2 presents evidence on willingness of firms to do business with the public sector. Section B.3 presents the key findings from the M/WBE and non-M/WBE respondents concerning disparate treatment. Section B.4 presents the key findings concerning the impact of the current business environment on M/WBEs' ability to conduct their businesses. Section B.5 presents key findings to our questions concerning whether prime contractors solicit or hire M/WBEs for work on public or private contracts without M/WBE goals. Section B.6 then examines whether M/WBEs and non-M/WBEs that responded to the mail surveys are representative of all M/WBEs and non-M/WBEs in the relevant markets. To do so, we surveyed a random sample of M/WBEs and non-M/WBEs that did not respond to our mail survey, and then compared their responses to key questions with those of our survey respondents.

Finally, Section C describes the results of the business experience group interviews. Responses are grouped under the headings of the most common cited barriers and issues facing businesses in the State of Maryland's market area.

B. Business Experience Surveys

1. Survey Questionnaire, Sample, and Responses

The survey questionnaire asked whether and with what frequency firms had experienced discrimination in a wide variety of likely business dealings in the previous five years. The survey also inquired about the influence of specific aspects of the everyday business environment, such as bonding and insurance requirements, on each firm's ability to do business in the State of Maryland's relevant markets. We also asked about the relative frequency with which firms that have been used as subcontractors, subconsultants, or suppliers by prime contractors on contracts *with* M/WBE goals have been hired to work, or even solicited to bid, on similar contracts *without* M/WBE goals. Finally, we posed questions about the characteristics of the firm, including firm age, owner's education, employment size and revenue size, to facilitate comparisons of similarly situated firms.

The mail survey sample was stratified by industry and drawn directly from the Master M/WBE Directory and the Baseline Business Universe compiled for this Study using the custom census methodology outlined in this chapter.¹⁶² Firms were sampled randomly within strata. M/WBE firms were oversampled to facilitate statistical comparisons with non-M/WBEs. Of 18,362 businesses that received the questionnaire,¹⁶³ 1,706 (9.3%) provided usable responses.¹⁶⁴ The distribution of total responses according to the race and gender of the business owner, by major contracting category, appears in Table 7.1.

¹⁶² See Chapter II for a discussion of how the product and geographic markets were defined. See Chapter III for a discussion of how the Master M/WBE Directory and the Baseline Business Universe were assembled.

¹⁶³ These figures exclude surveys that were returned undelivered or were otherwise undeliverable.

¹⁶⁴ The total number of valid responses to any particular survey question, however, was sometimes lower than this due to item non-response.

Table 7.1. Race, Gender and Contracting Category of Mail Survey Respondents

Group	Construction	Architecture & Engineering	Professional & Other Services	Goods & Supplies	Total
African American	89	28	226	20	363
Hispanic	59	9	36	3	107
Asian	23	41	88	10	162
Native American	2	2	9	1	14
Minorities with unknown Race/Ethnicity	-	-	-	-	-
Nonminority Women	138	63	320	40	561
M/WBE Total	311	143	679	74	1,207
Nonminority Men	221	73	173	32	499
Total	532	216	852	106	1,706

Source: NERA mail survey.

2. Willingness of Firms to Contract with the Public Sector

The probative value of anecdotal evidence of discrimination increases when it comes from active businesses in the relevant geographic and procurement markets. The value of such evidence increases further when it comes from firms that have actually worked or attempted to work for the public sector within those markets. Such is the present case.

As shown below in Table 7.2, there is an observable link between the firms responding to our mail survey and the public sector of the Maryland area economy. All respondents operate establishments in the relevant geographic and product markets. Moreover, significant numbers of survey respondents have worked or attempted to do work for the State of Maryland or other public entities in the market area in the last five years. This is observed for virtually all types of M/WBEs and non-M/WBEs in all procurement categories, and the importance of the public sector is even more significant for M/WBEs than it is for non-M/WBEs. Overall, 43 percent of non-M/WBEs and 54 percent of M/WBEs have worked or attempted to work for the State of Maryland or some other public entity in the market area in the previous five years. For M/WBEs in Construction and A&E, the figures are significantly higher than this, at 65 percent and 62 percent, respectively.

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Table 7.2. Survey Respondents Indicating They Had Worked or Attempted to Work for Public Sector Agencies in the Last Five Years

Worked or Attempted to Work, Last 5 Years	African American	Hispanic	Asian	Native American	Minority Total	Non-minority Female	M/WBE Total	Non-minority Male
ALL INDUSTRIES								
With State of Maryland	51.0%	47.7%	48.8%	28.6%	49.4%	32.0%	41.3%	29.7%
	(363)	(107)	(162)	(14)	(646)	(557)	(1203)	(495)
With Other Public Entity in Market Area	54.4%	48.1%	54.0%	21.4%	52.6%	40.3%	46.9%	36.2%
	(360)	(106)	(161)	(14)	(641)	(553)	(1194)	(489)
With any Public Entity in Market Area	62.6%	58.5%	61.1%	35.7%	61.0%	46.4%	54.2%	43.4%
	(361)	(106)	(162)	(14)	(643)	(554)	(1197)	(491)
CONSTRUCTION								
With State of Maryland	57.3%	55.9%	69.6%	100.0%	59.0%	42.3%	51.6%	35.3%
	(89)	(59)	(23)	(2)	(173)	(137)	(310)	(221)
With Other Public Entity in Market Area	63.6%	53.4%	78.3%	100.0%	62.6%	54.4%	59.0%	37.9%
	(88)	(58)	(23)	(2)	(171)	(136)	(307)	(219)
With any Public Entity in Market Area	67.0%	65.5%	82.6%	100.0%	69.0%	59.1%	64.6%	46.6%
	(88)	(58)	(23)	(2)	(171)	(137)	(308)	(219)
ARCHITECTURE & ENGINEERING								
With State of Maryland	57.1%	44.4%	63.4%	50.0%	58.8%	33.9%	47.9%	31.5%
	(28)	(9)	(41)	(2)	(80)	(62)	(142)	(73)
With Other Public Entity in Market Area	71.4%	44.4%	62.5%	50.0%	63.3%	48.3%	56.8%	47.2%
	(28)	(9)	(40)	(2)	(79)	(60)	(139)	(72)
With any Public Entity in Market Area	71.4%	55.6%	68.3%	100.0%	68.8%	54.1%	62.4%	52.8%
	(28)	(9)	(41)	(2)	(80)	(61)	(141)	(72)
PROFESSIONAL & OTHER SERVICES								
With State of Maryland	48.2%	36.1%	38.6%	11.1%	43.7%	27.4%	36.0%	22.9%
	(226)	(36)	(88)	(9)	(359)	(318)	(677)	(170)
With Other Public Entity in Market Area	49.6%	38.9%	44.3%	0.0%	45.9%	33.1%	39.9%	31.5%
	(224)	(36)	(88)	(9)	(357)	(317)	(674)	(168)
With any Public Entity in Market Area	60.4%	47.2%	53.4%	11.1%	56.1%	39.9%	48.5%	37.9%
	(225)	(36)	(88)	(9)	(358)	(316)	(674)	(169)
GOODS & SUPPLIES								
With State of Maryland	45.0%	33.3%	30.0%	0.0%	38.2%	30.0%	33.8%	22.6%
	(20)	(3)	(10)	(1)	(34)	(40)	(74)	(31)
With Other Public Entity in Market Area	45.0%	66.7%	50.0%	0.0%	47.1%	37.5%	41.9%	23.3%
	(20)	(3)	(10)	(1)	(34)	(40)	(74)	(30)
With any Public Entity in Market Area	55.0%	66.7%	50.0%	0.0%	52.9%	42.5%	47.3%	29.0%
	(20)	(3)	(10)	(1)	(34)	(40)	(74)	(31)

Source: NERA mail survey.

Note: Total number of valid responses in parentheses.

3. Experiences of Disparate Treatment in Business Dealings

The survey included questions about instances of disparate treatment based on race and/or gender experienced in various business dealings during the past five years. As shown in the two rightmost columns of Table 7.3, in almost every one of the 14 categories on which they were polled, substantially more M/WBEs than non-M/WBEs reported experiencing disparate treatment, casting doubt on claims of widespread “reverse discrimination.” In many cases, these differences were also statistically significant.

On average, reports were highest among African Americans, with an overall rate of 49.7 percent, followed in descending order, by Asians (47.7%), Hispanics (44.0%), nonminority women (34.5%), and Native Americans (23.1%). By comparison, the reported rate for nonminority males was 19.8 percent. The balance of Table 7.3 shows results for each of 14 distinct types of disparate treatment that we asked about in the survey.

In all 14 categories, the ratio of the reported amount of disparate treatment between M/WBEs and non-M/WBEs is large—more than 150 percent of the reported rate for non-M/WBEs. In all 14 categories, this difference is statistically significant as well. In most categories, the reported incidence of disparate treatment is far more severe than even this. Specifically:

- In applying for surety bonds the incidence of disparate treatment was almost 2300% higher than the reported rate for non-M/WBEs;
- In applying for commercial loans and in obtaining price quotes from suppliers or subcontractors the incidence of disparate treatment was approximately 700% higher than the reported rate for non-M/WBEs;
- In hiring workers from union hiring halls and in having to do inappropriate or extra work not required of comparable non-M/WBEs the incidence of disparate treatment was approximately 600% higher than the reported rate for non-M/WBEs;
- In having to meet quality, inspection, or performance standards not required of comparable non-M/WBEs the incidence of disparate treatment was over 500% higher than the reported rate for non-M/WBEs;
- In applying for commercial or professional insurance and in working or attempting to work on private sector prime contracts the incidence of disparate treatment was approximately 450% higher than the reported rate for non-M/WBEs;
- In working or attempting to work on private sector subcontracts and in functioning without hindrance or harassment on the work site the incidence of disparate treatment was over 400% higher than the reported rate for non-M/WBEs;
- In joining or dealing with trade associations the incidence of disparate treatment was almost 300% higher than the reported rate for non-M/WBEs;

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- In working or attempting to work on public sector subcontracts and in receiving timely payment for work performed the incidence of disparate treatment was over 200% higher than the reported rate for non-M/WBEs;
- In working or attempting to work on public sector prime contracts the incidence of disparate treatment was just under 200% higher than the reported rate for non-M/WBEs.

Table 7.3 also provides evidence of the positive impact of public sector M/WBE programs in the Maryland economy. Three of the categories with the smallest relative differences between M/WBEs and non-M/WBEs—by far—were working or attempting to work on public sector prime contracts, working or attempting to work on public sector subcontracts, and receiving timely payment for work performed. In these categories, reports of disparate treatment were 1.87, 2.38 times, and 2.29 times more frequent, respectively.

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Table 7.3. Firms Indicating They Had Been Treated Less Favorably Due to Race and/or Gender While Participating in Business Dealings

Business Dealings	African American	Hispanic	Asian	Native American	Minority Total	Non-minority Female	M/WBE Total	Non-minority Male
Applying for commercial loans	36.5%	23.2%	20.3%	14.3%	29.7%	11.8%	21.9%	3.0%
	(189)	(69)	(79)	(7)	(344)	(262)	(606)	(231)
Applying for surety bonds	17.9%	12.3%	10.5%	16.7%	15.0%	7.5%	11.7%	0.5%
	(134)	(57)	(57)	(6)	(254)	(200)	(454)	(195)
Applying for commercial or professional insurance	18.5%	7.8%	6.9%	20.0%	13.6%	3.8%	9.2%	2.0%
	(222)	(77)	(102)	(10)	(411)	(343)	(754)	(294)
Hiring workers from union hiring halls	8.7%	4.9%	0.0%	14.3%	6.3%	3.7%	5.4%	0.9%
	(104)	(41)	(37)	(7)	(189)	(109)	(298)	(113)
Obtaining price quotes from suppliers or subcontractors	24.5%	19.2%	18.8%	0.0%	21.6%	13.2%	17.8%	2.5%
	(200)	(73)	(80)	(8)	(361)	(302)	(663)	(275)
Working or attempting to obtain work on public sector prime contracts	35.0%	21.2%	30.8%	11.1%	30.9%	17.2%	25.2%	13.5%
	(197)	(66)	(91)	(9)	(363)	(261)	(624)	(223)
Working or attempting to obtain work on public sector subcontracts	39.6%	27.8%	29.3%	10.0%	34.0%	16.3%	26.7%	11.2%
	(202)	(72)	(92)	(10)	(376)	(264)	(640)	(223)
Working or attempting to obtain work on private sector prime contracts	36.8%	19.4%	26.6%	9.1%	30.3%	16.2%	24.2%	5.2%
	(209)	(72)	(94)	(11)	(386)	(297)	(683)	(250)
Working or attempting to obtain work on private sector subcontracts	37.2%	28.4%	26.1%	9.1%	32.2%	14.9%	24.8%	6.0%
	(215)	(74)	(88)	(11)	(388)	(289)	(677)	(248)
Receiving timely payment for work performed	30.6%	32.5%	29.7%	27.3%	30.6%	23.0%	27.0%	11.8%
	(219)	(80)	(111)	(11)	(421)	(378)	(799)	(313)
Functioning without hindrance or harassment on the work site	20.1%	21.4%	18.6%	25.0%	20.1%	14.5%	17.4%	4.1%
	(194)	(70)	(97)	(8)	(369)	(331)	(700)	(292)
Joining or dealing with construction trade associations	16.4%	11.1%	8.6%	12.5%	13.3%	5.7%	9.8%	3.3%
	(134)	(63)	(58)	(8)	(263)	(228)	(491)	(212)
Having to do inappropriate or extra work not required of comparable non-M/WBEs	26.6%	20.0%	27.2%	25.0%	25.4%	14.7%	20.4%	3.4%
	(184)	(70)	(92)	(8)	(354)	(313)	(667)	(266)
Double standards not required of comparable non-M/WBEs	24.0%	16.7%	19.0%	22.2%	21.3%	12.9%	17.5%	3.2%
	(204)	(72)	(100)	(9)	(385)	(318)	(703)	(279)
In any one of the business dealings listed above	49.7%	44.0%	47.7%	23.1%	47.5%	34.5%	41.5%	19.8%
	(286)	(91)	(130)	(13)	(520)	(446)	(966)	(354)

Source: NERA mail survey. Notes: Total number of valid responses in parentheses. Figures in **boldface** type are statistically significantly different from non-M/WBEs using a conventional two-tailed Fisher's Exact Test and within a 95% or better confidence interval. Figures in **boldface italicized** type are significant within a 90% confidence interval.

Table 7.4 represents the same disparate treatment information as in Table 7.3, but with the frequency percentages replaced by relative rankings. That is, the 14 kinds of disparate treatment are ranked by each group according to the frequency with which disparate treatment was reported, with “1” representing the most frequent and “14” representing the least frequent.¹⁶⁵ The most frequently reported problem overall for M/WBEs—as opposed to the one with the most relative difference from non-M/WBEs—was receiving timely payment for work performed. The next five most frequently reported, in descending order of frequency, were working or attempting to work on public sector subcontracts,¹⁶⁶ working or attempting to work on public sector prime contracts, working or attempting to work on private sector subcontracts,¹⁶⁷ and working or attempting to work on private sector prime contracts.

Some courts and other observers have asserted that findings such as those in Tables 7.3 and 7.4 tell us nothing about discrimination against M/WBEs since, even though they are current and come directly from the businesses reporting disparate treatment, even though they are restricted to the relevant geographic and product markets, even though they are disaggregated by contracting category and by race and gender, they still do not compare firms of similar size, qualifications, or experience. We have argued elsewhere against such flawed logic (and economics) since size, qualifications, and experience are *precisely* the factors that are adversely impacted by discrimination.¹⁶⁸ Nevertheless, if disparities are still observed even when such “capacity” factors are held constant, the case becomes even more compelling.

The results reported next in Table 7.5 show that even when levels of size, qualifications, and experience are held constant across firms, measures of disparate treatment of M/WBEs are still large, adverse, and statistically significant.

¹⁶⁵ In the case of ties, not all 14 ranks will be present.

¹⁶⁶ In these two survey questions, “public sector” refers to public sector entities in general and not the State of Maryland specifically.

¹⁶⁷ *Ibid.*

¹⁶⁸ Wainwright and Holt (2010), 65-67; Wainwright (2000), 86-87.

Table 7.4. Firms Indicating They Had Been Treated Less Favorably Due to Race and/or Gender While Participating in Business Dealings (Rankings)

Business Dealings	African American	Hispanic	Asian	Native American	Minority Total	Non-minority Female	M/WBE Total
Applying for commercial loans	4	4	7	6	6	10	6
Applying for surety bonds	12	11	11	5	11	11	11
Applying for commercial or professional insurance	11	13	13	4	12	13	13
Hiring workers from union hiring halls	14	14	14	6	14	14	14
Obtaining price quotes from suppliers or subs	8	9	9	11	8	8	8
Working or attempting to obtain work on public sector prime contracts	5	6	1	8	3	2	3
Working or attempting to obtain work on public sector subcontracts	1	3	3	9	1	3	2
Working or attempting to obtain work on private sector prime contracts	3	8	5	10	5	4	5
Working or attempting to obtain work on private sector subcontracts	2	2	6	10	2	5	4
Receiving timely payment for work performed	6	1	2	1	4	1	1
Functioning without hindrance or harassment on the work site	10	5	10	2	10	7	10
Joining or dealing with trade associations	13	12	12	7	13	12	12
Having to do inappropriate or extra work not required of comparable non-M/WBEs	7	7	4	2	7	6	7
Having to meet quality or performance standards not required of comparable non-M/WBEs	9	10	8	3	9	9	9

Source: See Table 7.1.

In Table 7.5, we report the results from a series of Probit regressions using the mail survey data on disparate treatment.¹⁶⁹ As indicated earlier, the survey questionnaire collected data related to each firm's size, qualifications, and experience. The reported estimates from these models can be interpreted as changes or differences in the probability of disparate treatment conditional on the control variables. The estimates in the table show large differences in disparate treatment probabilities between M/WBEs and non-M/WBEs. In column (1) of Table 7.5 (in which the regression model contains only M/WBE status and contracting category indicators), the estimated coefficient of 0.241 on the M/WBE variable indicates that the likelihood of experiencing disparate treatment for M/WBE firms is 24.1 percentage points higher than that for non-M/WBE firms.¹⁷⁰ This difference is statistically significant. Column (2) of Table 7.5 includes additional explanatory variables to hold constant differences in the characteristics of firms that may vary by race or gender, including the owner's education, the age of the firm, and the size of the firm measured by employment and by sales. Even after controlling for these differences, however, M/WBE firms remain 22.3 percentage points more likely than non-M/WBE firms to experience disparate treatment. These differences are statistically significant. Firm size and other "capacity"-type characteristics account for only a small portion of the disparate treatment reported by M/WBEs in the State of Maryland's market area.

The exercise is repeated in columns (3) and (4). The only difference in these columns from the earlier regressions is that the M/WBE variable is now separated into two components—one for minority-owned firms and one for nonminority-female owned firms. The results in column (3) indicate that minority-owned firms in the State of Maryland's market area are 31.9 percentage points more likely to experience disparate treatment than non-M/WBE firms. When controls are added in column (4), this difference falls only slightly to 29.3 percentage points, indicating that controlling for other "capacity"-type factors makes only a limited difference in the incidence of disparate treatment. These differences are statistically significant. The differences for nonminority female-owned firms are similar, showing a 20.1 percentage point difference with only the industry controls and an only slightly smaller 19.4 percentage point difference when the full set of capacity-type controls is added. These differences are statistically significant.

The exercise is repeated a final time in columns (5) and (6) with separate indicators for each type of M/WBE. The results for nonminority females are nearly identical to those in columns (3) and (4). For African American-owned firms, the differential is 36.1 percentage points in column (5), falling slightly to 34.4 percentage points after the full set of controls is added. These differences are statistically significant. For Hispanic-owned firms, the differential is 26.9 percentage points in column (5), falling just slightly to 24.1 percentage points after the full set of controls is added. These differences are statistically significant. For Asian-owned firms, the differential is 33.3 percentage points in column (5), falling just slightly to 31.6 percentage points after the full set of controls is added. These differences are statistically significant. For Native American-owned firms, the differential is 9.2 percentage points in column (5), falling to -1.8 percent after the full

¹⁶⁹ See Chapter IV for a description of Probit regression.

¹⁷⁰ This estimate largely replicates the raw difference in disparate treatment rates between M/WBE and non-M/WBE firms reported in the last row of Table 7.3. The raw differential observed there (41.5% – 19.8% = 21.7%) differs slightly from the 24.1% differential reported here since the regression specification also controls for industry category.

set of controls is added. The differences for Native Americans, however, are not statistically significant.

Table 7.5. Prevalence of Disparate Treatment Facing M/WBEs

	(1)	(2)	(3)	(4)	(5)	(6)
M/WBE	0.241 (8.05)	0.223 (5.82)				
Minority			0.319 (8.95)	0.293 (6.38)		
Nonminority Female			0.201 (5.34)	0.194 (4.13)	0.203 (5.38)	0.197 (4.17)
African American					0.361 (8.64)	0.344 (6.34)
Hispanic					0.269 (4.51)	0.241 (3.24)
Asian					0.333 (6.26)	0.316 (4.60)
Native American					0.092 (0.62)	-0.018 (-0.11)
Owner's Education (3 indicator variables)	No	Yes	No	Yes	No	Yes
Firm Age (4 indicators)	No	Yes	No	Yes	No	Yes
Employment size bracket (6 indicators)	No	Yes	No	Yes	No	Yes
Sales/revenue size bracket (4 indicators)	No	Yes	No	Yes	No	Yes
Industry category (3 indicators)	Yes	Yes	Yes	Yes	Yes	Yes
N	1320.00	897.00	1320.00	897.00	1320.00	897.00
Pseudo R ²	0.05	0.07	0.06	0.07	0.06	0.08
Chi ²	79.47	78.50	95.03	85.23	100.76	91.49
Log likelihood						

Source: See Table 7.1.

Note: Reported estimates are derivatives from Probit models, t-statistics are in parentheses. A t-statistic of 1.96 (1.64) or larger indicates that the result is significant within a 95 (90) percent confidence interval.

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Table 7.6. Prevalence of Disparate Treatment Facing M/WBEs, by Type of Business Dealing

Business Dealings	African American	Hispanic	Asian	Native American	Minority Total	Non-minority Female	M/WBE Total
Applying for commercial loans	44.1% (5.57)	42.6% (4.19)	32.8% (3.27)	0.0% (0.00)	32.0% (5.24)	19.0% (3.04)	16.9% (4.51)
Applying for surety bonds	37.6% (3.97)	29.3% (2.76)	26.8% (2.37)	0.0% (0.00)	22.6% (3.63)	18.9% (2.87)	9.8% (3.43)
Applying for commercial or professional insurance	18.3% (4.05)	2.8% (0.57)	11.6% (2.09)	27.4% (1.80)	11.5% (3.49)	3.7% (1.21)	5.8% (2.70)
Hiring workers from union hiring halls	1.3% (2.07)	2.0% (1.48)	0.0% (0.00)	0.0% (0.00)	0.6% (1.69)	0.3% (0.76)	0.2% (1.48)
Obtaining price quotes from suppliers or subcontractors	31.8% (4.72)	33.7% (3.84)	38.4% (4.20)	0.0% (0.00)	25.5% (4.96)	18.9% (3.65)	14.2% (4.57)
Working or attempting to obtain work on public sector prime contracts	26.3% (3.97)	18.0% (1.99)	24.3% (2.99)	0.0% (0.00)	20.3% (3.81)	11.1% (1.96)	13.9% (3.26)
Working or attempting to obtain work on public sector subcontracts	42.1% (5.75)	39.9% (4.23)	32.8% (3.72)	0.0% (0.00)	32.0% (5.55)	16.7% (2.67)	20.3% (4.65)
Working or attempting to obtain work on private sector prime contracts	43.9% (6.11)	28.5% (3.05)	39.9% (4.55)	0.0% (0.00)	31.6% (5.70)	19.5% (3.30)	19.2% (4.95)
Working or attempting to obtain work on private sector subcontracts	39.0% (5.60)	39.3% (4.27)	35.5% (4.06)	0.0% (0.00)	30.6% (5.61)	18.8% (3.16)	19.2% (4.88)
Receiving timely payment for work performed	21.6% (3.85)	20.9% (2.76)	18.8% (2.67)	12.1% (0.78)	18.7% (4.14)	14.2% (3.10)	14.2% (4.01)
Functioning without hindrance or harassment on the work site	25.0% (4.41)	18.8% (2.45)	33.3% (4.29)	22.1% (1.69)	20.8% (4.72)	16.5% (3.75)	12.8% (4.54)
Joining or dealing with construction trade associations	15.1% (2.96)	8.1% (1.44)	6.4% (1.04)	25.3% (1.64)	9.9% (2.66)	3.1% (0.88)	5.4% (2.05)
Having to do inappropriate or extra work not required of comparable non-M/WBEs	36.7% (5.08)	37.3% (3.98)	47.5% (4.96)	32.3% (1.64)	31.2% (5.52)	23.2% (4.19)	17.3% (5.16)
Having to meet quality, inspection, or performance standards not required of comparable non-M/WBEs	25.1% (4.31)	18.1% (2.35)	31.0% (4.03)	22.9% (1.66)	20.3% (4.53)	14.6% (3.19)	12.5% (4.17)
In any one of the business dealings listed above	34.4% (6.34)	24.1% (3.24)	31.6% (4.60)	-1.8% (-0.11)	29.3% (6.38)	19.4% (4.13)	22.3% (5.82)

Source: See Table 7.1. Notes: (1) Reported estimates are derivatives from Probit models, t-statistics are in parentheses. A t-statistic of 1.96 (1.64) or larger indicates that the result is significant within a 95 (90) percent confidence interval; (2) Figures in **boldface** type are statistically significantly different from non-M/WBEs using a conventional two-tailed Fisher's Exact Test and within a 95% or better confidence interval. Figures in **boldface italicized** type are significant within a 90% confidence interval.

The regression models reported in Table 7.5 used as their dependent variable an indicator of whether or not a survey respondent reported having been treated less favorably in *any* of the 14 different types of business dealings described in the first column of Table 7.3. We re-estimated the regression model reported in Column (2) of Table 7.5 separately using as the dependent variable, in turn, each of the 14 types of business dealings and report those results in Table 7.6. As Table 7.6 shows:

- In 14 of 14 categories, the differences for African American-owned firms are large, adverse and statistically significant.
- In 11 of 14 categories, the differences for Hispanic-owned firms are large, adverse and statistically significant.
- In 12 of 14 categories, the differences for Asian-owned firms are large, adverse and statistically significant.
- In 5 of 14 categories, the differences for Native American-owned firms are large, adverse and statistically significant.
- In 14 of 14 categories, the differences for minority-owned firms as a group are large, adverse and statistically significant.
- In 11 of 14 categories, the differences for nonminority female-owned firms as a group are large, adverse and statistically significant.
- In 13 of 14 categories, the differences for minority- and women-owned firms as a group are large, adverse and statistically significant.

4. Impact of Current Business Environment on Ability to Win Contracts

The survey also asked questions about some common features of the business environment to determine which factors were perceived by M/WBEs as serious impediments to obtaining contracts. As Table 7.7 indicates, substantial percentages of both M/WBEs and non-M/WBEs report that certain factors, such as “Late Notice of Bid/Proposal Deadlines,” “Large project sizes,” “Cost of bidding and proposing,” “Obtaining working capital,” “Price of supplies or materials,” and “Bonding requirements” make it harder or impossible for their firms to obtain contracts. Among non-M/WBEs, for example, 42 percent reported that late notice of bid/proposal deadlines made it harder or impossible for them to win contracts, 32 percent reported that the large project sizes had this effect, 28 percent reported that the cost of bidding or proposing had this effect, 25 percent reported that obtaining working capital had this effect, 25 percent reported that the price of supplies or materials had this effect, and 23 percent reported that bonding requirements had this effect. The figures for M/WBEs in these six categories, however, at 57 percent, 54 percent, 43 percent, 45 percent, 34 percent, and 44 percent, respectively, are substantially and statistically significantly higher than those for non-M/WBEs. Indeed, as Table 7.7 shows, M/WBEs reported statistically significantly more difficulty than non-M/WBEs on all nine factors about which they were surveyed. The rates at which M/WBEs

reported difficulty with these factors ranged from 130 percent to 230 percent higher than the rates reported by non-M/WBEs.

Table 7.7. Firms Indicating that Specific Factors in the Business Environment Make It Harder or Impossible to Obtain Contracts—Sample Differences

Business Environment	African American	Hispanic	Asian	Native American	Minority Total	Non-minority Female	M/WBE Total	Non-M/WBEs
Bonding Requirements	48.9% (135)	37.5% (56)	46.7% (60)	100.0% (2)	46.2% (253)	41.3% (179)	44.2% (432)	23.3% (159)
Insurance Requirements	27.4% (215)	18.9% (74)	14.6% (89)	28.6% (7)	22.9% (385)	17.5% (263)	20.7% (648)	9.8% (256)
Previous Experience Requirements	38.5% (218)	23.0% (74)	25.0% (100)	16.7% (6)	31.9% (398)	17.7% (288)	25.9% (686)	11.3% (256)
Cost of Bidding or Proposing	53.5% (213)	40.8% (71)	42.7% (96)	60.0% (5)	48.6% (385)	35.2% (264)	43.1% (649)	27.8% (241)
Large Project Sizes	66.0% (194)	48.5% (68)	54.2% (96)	40.0% (5)	59.2% (363)	47.1% (242)	54.4% (605)	32.1% (215)
Price of Supplies or Materials	42.7% (192)	43.1% (65)	23.3% (73)	20.0% (5)	38.2% (335)	29.0% (238)	34.4% (573)	25.0% (228)
Obtaining Working Capital	62.0% (208)	49.2% (65)	38.4% (86)	25.0% (4)	53.7% (363)	31.3% (227)	45.1% (590)	25.4% (205)
Late Notice of Bid/Proposal Deadlines	60.6% (198)	58.1% (62)	57.8% (90)	33.3% (3)	59.2% (353)	52.7% (224)	56.7% (577)	42.0% (212)
Prior Dealings with Public Agency of Private Owner	24.9% (201)	23.7% (59)	18.3% (93)	0.0% (5)	22.6% (358)	11.4% (255)	17.9% (613)	10.0% (241)

Source and Notes: See Table 7.3.

To control for firm and owner characteristics, we used a regression technique known as ordered Probit.¹⁷¹ Ordered Probit regression is used when the dependent variable is discrete and ordinal (and hence can be ranked). We use ordered Probit to model the ordinal ranking—(1) “helps me,” (2) “has no effect,” (3) “makes it harder,” or (4) “makes it impossible”—of the aspect of procurement under consideration. The firm characteristics used as control variables consist of the age of the firm, the number of employees, the size of revenues, the education level of the primary owner of the firm and the major industry group. To report results from ordered Probit analysis, we use a “+” to indicate that M/WBEs had more difficulty than non-M/WBEs with similar firm characteristics, and a “-” to indicate that M/WBEs had less difficulty than non-M/WBEs with similar firm characteristics.

¹⁷¹ For a textbook discussion of ordered Probit, see, for example, Greene (2011).

Table 7.8 reports the sign and statistical significance from the ordered Probit analysis. We find that when observable firm characteristics are controlled for, all nine of the factors we inquired about prove to be greater difficulties for M/WBEs than for non-M/WBEs (as indicated by the “+” sign), even when “capacity”-type factors such as employment size, revenue size, years in business, and owner education are held constant. The disparities observed regarding previous experience requirements, the cost of bidding or proposing, large project sizes, and prior dealings with the owner, in particular, were statistically significant with respect to non-M/WBEs.

Table 7.8. Firms Indicating that Specific Factors in the Business Environment Make It Harder or Impossible for M/WBEs to Obtain Contracts, Regression Results

Business Environment	M/WBEs
Bonding Requirements	+*
Insurance Requirements	+*
Previous Experience Requirements	+*
Cost of Bidding or Proposing	+*
Large Project Sizes	+*
Price of Supplies or Materials	+*
Obtaining Working Capital	+*
Late Notice of Bid/Proposal Deadlines	+*
Prior Dealings with Public Agency or Private Owner	+†

Source: See Table 7.1.

Notes: A plus (+) indicates that a group is more likely than non-M/WBEs to report difficulty with business environment factors. A minus (-) indicates that a group is less likely than non-M/WBEs to experience difficulty. An asterisk (*) indicates that the disparity is statistically significant within a 95% or better confidence interval. A dagger (†) indicates that the disparity is statistically significant within a 90% or better confidence interval.

5. Solicitation and Use of M/WBEs on Public and Private Projects Without Affirmative Action Goals

Our second to last survey question asked, “How often do prime contractors who use your firm as a subcontractor on public-sector projects with requirements for minority, women and/or disadvantaged businesses also *hire* your firm on projects (public or private) *without* such goals or requirements?” As Table 7.9 shows, 74 percent of African American-owned firms, 52 percent of Hispanic-owned firms, 62 percent of Asian-owned firms, 70 percent of Native American-owned firms, and 53 percent of nonminority female-owned firms responded that this seldom or never occurs. For minorities as a group the figure was 67 percent and for M/WBEs as a group the figure was 64 percent.

Table 7.9. Percent of M/WBEs Indicating that Prime Contractors Who Use Them as Subcontractors on Projects with Goals Seldom or Never Hire Them on Projects without Such Goals

M/WBE Group	All Industries	Construction	Maintenance	AE-CRS	IT	Services	CSE
African American	74.4% (219)	50.8% (63)		69.6% (23)		86.2% (123)	90.0% (10)
Hispanic	52.2% (69)	45.5% (44)		42.9% (7)		70.6% (17)	100.0% (1)
Asian	61.5% (104)	47.1% (17)		65.6% (32)		63.3% (49)	66.7% (6)
Native American	70.0% (10)	50.0% (2)		50.0% (2)		83.3% (6)	- (0)
Minority Total	67.2% (402)	48.4% (126)		64.1% (64)		79.0% (195)	82.4% (17)
Nonminority Female	52.8% (123)	48.1% (27)		50.0% (16)		56.5% (62)	50.0% (18)
M/WBE Total	63.8% (525)	48.4% (153)		61.3% (80)		73.5% (257)	65.7% (35)

Source and Note: See Table 7.2.

At least one court has held that the failure of prime contractors to even *solicit* qualified minority- and women-owned firms is a “market failure” that is important evidence in helping to establish a government’s compelling interest in remedying such failures.¹⁷² Among the evidence relied upon for this holding was a NERA survey similar to the current one in which approximately 50 percent of the respondents reported that they were seldom or never solicited for non-goals work.¹⁷³

Our final survey question therefore asked “How often do prime contractors who use your firm as a subcontractor on public-sector projects with requirements for minority, women and/or disadvantaged businesses *solicit* your firm on projects (public or private) *without* such goals or requirements?” Responses to this question are tabulated in Table 7.10, which shows the same pattern as in Table 7.9. In Table 7.10, 69 percent of African American-owned firms, 47 percent of Hispanic-owned firms, 57 percent of Asian-owned firms, 82 percent of Native American-owned firms, and 54 percent of nonminority female-owned firms responded that this seldom or never occurs. For minorities as a group the figure was 62 percent and for M/WBEs as a group the figure was 60 percent. Similar results were observed in each major contracting category as well.

¹⁷² *Builders Association of Greater Chicago v. City of Chicago*, 298 F.Supp. 2d 725, 737 (N.D. Ill. 2003).

¹⁷³ *Id.* See also *Concrete Works of Colorado v. City and County of Denver*, 321 F.3d 950 at 987-988.

Anecdotal Evidence of Disparities in the State of Maryland Market Area

Table 7.10. Percent of M/WBEs Indicating that Prime Contractors Who Use Them as Subcontractors on Projects with Goals Seldom or Never *Solicit* Them on Projects without Such Goals

M/WBE Group	All Industries	Construction	Maintenance	AE-CRS	IT	Services	CSE
African American	68.9% (225)	47.8% (67)		63.6% (22)		79.4% (126)	90.0% (10)
Hispanic	47.1% (68)	46.7% (45)		16.7% (6)		62.5% (16)	0.0% (1)
Asian	56.5% (108)	36.8% (19)		62.5% (32)		58.0% (50)	71.4% (7)
Native American	81.8% (11)	100.0% (2)		50.0% (2)		85.7% (7)	- (0)
Minority Total	62.4% (412)	46.6% (133)		58.1% (62)		72.9% (199)	77.8% (18)
Nonminority Female	53.7% (134)	54.8% (31)		47.4% (19)		53.8% (65)	57.9% (19)
M/WBE Total	60.3% (546)	48.2% (164)		55.6% (81)		68.2% (264)	67.6% (37)

Source and Note: *See* Table 7.2.

6. Impact of Survey Non-Response

Since the mail survey was voluntary, it is important to account for the fact that many recipients did not respond. As a check on the usefulness of the information obtained from our mail survey respondents, we conducted telephone surveys of 11,000 randomly selected M/WBEs and non-M/WBEs that did not respond to our mail survey. The purpose of this “non-response” survey is to test whether their answers to key survey questions were different from the answers of respondents in ways that would impact the relevance of the information obtained from our mail survey respondents.

We obtained complete responses from 2,261 firms, for a raw response rate of 21 percent. After removing duplicate records, records where the firm was no longer in business, and records where the telephone number was disconnected or the listing was otherwise unreachable, the effective response rate increased to 33 percent.

For the non-respondent survey, we selected three questions from the mail survey to pose to non-respondents. The first question asked whether large project sizes helped or harmed the firm’s ability to obtain public or private sector contracts. The second question asked whether and how frequently the firm had experienced discrimination in attempting to apply for commercial loans. The final question asked whether and how frequently the firm had experienced discrimination in working or attempting to work on private sector prime contracts.

Not surprisingly, one difference that we observed between respondents and non-respondents was that respondents had a greater general interest in the questions being asked. Among survey respondents, only 31.0 percent indicated that the question about large project sizes was “not applicable.” Among non-respondents, the figure was 46.2 percent. Among survey respondents, 43.3 percent indicated that discrimination in applying for commercial loans never occurred, compared to 84.0 percent among non-respondents. Among survey respondents, 42.0 percent indicated that discrimination in working or attempting to work on private sector prime contracts never occurred, compared to 82.5 percent among non-respondents. This phenomenon was apparent regardless of whether the firm was minority-owned, women-owned, or nonminority male-owned.

Among those firms to which the question was applicable, 31.2 percent of minority-owned firms that did not respond to the mail survey indicated that large project sizes made it harder or impossible for them to obtain contract awards. Among those that did respond to the survey, the figure was 59.2 percent. This difference is statistically significant. Among female-owned firms that did not respond to the mail survey, 22.8 percent indicated that large project sizes made it harder or impossible for them to obtain contract awards. Among those that did respond to the survey, the figure was 50.4 percent. This difference is statistically significant.¹⁷⁴ Among nonminority male-owned firms that did not respond to the mail survey, 12.4 percent indicated that large project sizes made it harder or impossible for them to obtain contract awards. Among

¹⁷⁴ The percentages reported in this section may differ slightly from comparable figures reported elsewhere in Chapter VII, since minorities of unknown race or ethnicity were excluded from the tallies in the mail survey.

those that did respond to the survey, the figure was 32.1 percent. This difference is also statistically significant.

These results demonstrate two key findings. First, reports that large project sizes make it harder or impossible for firms to obtain contracts are greater among mail survey respondents than among non-respondents, regardless of M/WBE status. Second, substantially more M/WBEs than non-M/WBEs report that large project sizes make it harder or impossible for them to obtain contracts, regardless of whether they responded to the mail survey or not. Moreover, the ratio of M/WBEs to non-M/WBEs reporting difficulty in this regard is actually greater among non-respondents, than among respondents, implying that the estimate of adverse disparity for M/WBE firms with regard to large project sizes that was reported from the mail survey (*See* Tables 7.7 and 7.8) may be somewhat understated relative to the universe of firms as a whole.

Among those firms to which the question was applicable, 10.4 percent of minority-owned firms that did not respond to the mail survey indicated that they had experienced one or more instances of discrimination during the previous five years in applying for commercial loans. Among those that did respond to the survey, the figure was 29.7 percent. This difference is statistically significant. For female-owned firms, 5.4 percent of those that did not respond to the mail survey indicated that they had experienced one or more instances of discrimination during the previous five years in applying for commercial loans. Among those that did respond to the survey, the figure was 16.8 percent. This difference is statistically significant. Among nonminority male-owned firms that did not respond to the mail survey, 4.2 percent indicated that they had experienced one or more instances of discrimination during the previous five years in applying for commercial loans. Among those that did respond to the survey, the figure was 3.0 percent. This difference is not statistically significant.

Once again we see that substantially more M/WBEs than non-M/WBEs report experiencing discrimination in applying for commercial loans during the previous five years, regardless of whether they responded to the mail survey or not. The ratio of M/WBEs to non-M/WBEs reporting discrimination is greater among respondents than non-respondents, indicating that the estimate of adverse disparity for M/WBE firms with regard to discrimination in applying for commercial loans reported from the mail survey (*See* Tables 7.3, 7.4 and 7.6) may be somewhat larger than in the universe of firms as a whole.

Among those firms to which the question was applicable, 9.7 percent of minority-owned firms that did not respond to the mail survey indicated that they had experienced one or more instances of discrimination during the previous five years in working or attempting to work on private sector prime contracts. Among those that did respond to the survey, the figure was 30.3 percent. For female-owned firms, 7.1 percent of those that did not respond to the mail survey indicated that they had experienced one or more instances of discrimination during the previous five years in working or attempting to work on private sector prime contracts. Among those that did respond to the survey, the figure was 22.5 percent. Both of these differences are statistically significant. Among nonminority male-owned firms that did not respond to the mail survey, 5.0 percent indicated that they had experienced one or more instances of discrimination during the previous five years in working or attempting to work on private sector prime contracts. Among those that did respond to the survey, the figure was 5.2 percent. This difference is not statistically significant.

We see from these results that reports of discrimination in working or attempting to work are greater among mail survey respondents than among non-respondents, regardless of M/WBE status, although the difference with respect to non-M/WBEs in this instance is not statistically significant. As observed with the other questions, more M/WBEs than non-M/WBEs reported experiencing discrimination in working or attempting to work on private sector prime contracts, regardless of whether they responded to the mail survey or not. However, the ratio of M/WBEs to non-M/WBEs reporting this type of discrimination is somewhat larger among respondents than non-respondents, indicating that the estimate of adverse disparity for M/WBE firms with regard to discrimination in working or attempting to work on private sector prime contracts shown above (*See* Tables 7.3, 7.4 and 7.6) may be somewhat larger than in the universe of firms as a whole.

In conclusion, the results of our non-respondent survey indicate that both M/WBEs and non-M/WBEs are more likely to have responded to the mail survey if they had experienced the difficulties identified in the mail survey and also that M/WBEs reported greater difficulties than non-M/WBEs whether or not they responded to the mail survey. For all three of the questions we examined, this means the actual disparities facing M/WBEs in the State of Maryland market area are not dissimilar to those that we estimated based on our mail survey results. For all three questions examined, the basic qualitative finding of more problems and greater disparities being observed among M/WBEs than among non-M/WBEs is unchanged.

C. Business Owner Interviews

To explore additional anecdotal evidence of possible discrimination against minorities and women (collectively, M/WBEs) in the State of Maryland market area, we conducted 30 focus group sessions, including a stakeholder meeting with minority- and women-owned business leaders. We also conducted four group interviews with State staff including senior procurement officers, M/WBE liaisons and Governor's Office of Minority Affairs ("GOMA") personnel. The focus group sessions were held in every region of the State: Western, Eastern, Central and Southern Maryland and included minority and nonminority firms doing business with the State of Maryland. Combined, we met with 183 business owners or representatives, and received written comments as well, from a cross section of the industries from which the State of Maryland procures goods and services. Firms ranged in size from large national businesses to much smaller and newer firms in all major industry categories (*i.e.*, construction, A/E-CRS, maintenance, IT, services and CSE). Owners' backgrounds included individuals with decades of experience in their fields as well as entrepreneurs at the start of their business careers. We sought to explore their experiences in seeking and performing public and private sector contracting opportunities, and with the State of Maryland's contracting and purchasing policies.

This effort gathered individual perspectives to augment the statistical information in the study, including that from the business experience surveys. In general, interviewees' individual experiences echoed the responses to the business experience surveys. We also elicited feedback, both positive and negative, on the State of Maryland's contracting and purchasing policies, along with corresponding recommendations for improvements. These are reported below in Chapter VIII.

The following are summaries of the issues discussed. Quotations are indented, and are intended to represent the views expressed by several participants.

1. Perceptions of Competence and Qualifications and Higher Performance Standards

Many firms, both minority and nonminority, indicated that there had been significant progress in providing opportunities for minorities and women in the State of Maryland's public and private sector contracting activities. There was also a belief that many barriers remained in the State's contracting processes. Although not quantifiable, one theme in the interviews was the continuing influence of subtle and sometimes not so subtle negative perceptions and stereotypes. These stereotypes of a lack of competence infect all aspects of the M/WBEs' attempts to obtain contracts and to be treated equally in performing contract work. Minorities and women repeatedly discussed their struggles with negative perceptions and attitudes of their capabilities in the business world.

There is a reputation that it's hard to find a good company, a good engineer who is MBE, qualified, that we get the jobs because of this requirement, it's not because we are worthy of it.

I do all environmental landscaping. I have a Masters in natural resource management, my B.S. and Masters in natural resources and yet, I'm still constantly—I get all the certifications I can...I'm a tree expert, I'm a fertilizer expert...but it's still not fair...I should have to do that simply because I want to [so] I'm not having to constantly prove myself as a female in the construction industry.

One of the things, when you get a contract in from like an insurance company where they've got millions of dollars coming in and they're out of state and they need an MBE component and I call them up and he says just put the black tax on it...So we even have a name for it. Put the black tax on it.

There are meetings that I go to and I put on a hardhat and steel toed boots just so people [know] because they're already going to discount me because I am a woman....

I go up to this fella who was with one of the big national companies and I introduce myself. I told him that I do high performance coating...And he said to me... "Well you know, I really don't have the time to answer the phone if you have questions about the drawings."

When I [a female construction business owner] go on a construction site and one of my [male] employees is [there]...we're 60 percent women, my firm is. The questions, to this day, if someone doesn't know us, they walk up to the two of us and they ask [the man the technical questions]...They ask [the man]. So that happens all the time.

One majority prime contractor summarized his view of the competency of minority contractors as follows:

I've seen firms surviving because of it. Yeah, I guess some of them have flourished, but most of them—I shouldn't say it, but a lot of them wouldn't exist without that crutch...In other words, if they didn't have that certification, they couldn't even exist in the business world.

M/WBE firms also complained that they are held to higher standards than their nonminority counterparts.

I've been on jobs where I walked through and I look at [the] work, and I say, "Wow, they accepted this?" Meaning that we know, when we work on it, it's never accepted like that. You got to make it better. And we're talking, [private agencies like ---] and [public agencies like ---]. And it's like they actually accepted this work by this guy, and we know if we were doing that work, we would've had to have a higher standard.

And as a woman in construction, you have to have a thicker skin and be able to deal with this, and you have to know...your stuff 200 percent better than whoever any other person. Like, you just have to know your job, you have to know everything, because they're always going to test you.

M/WBE firms also complained that they were often paid less for the same work than the nonminority counterparts.

I remember the initial conversation was like, "You have to reduce that, because you're new, and we're trying to help get you in, which, you know, the industry is dominated by, you know, others. ...but you can't charge what they charge. I was selected to sit on the interagency rates committee [and] had the privilege to see everybody's rates and to see the minority vendor's rates are down here and everybody else's is up here, and we're providing some of the same services.

Many M/WBE firms also hold the perception that many in the State and a majority of nonminority prime contractors did not support the M/WBE program.

Each of them showed me their fuel trucks... telling me in essence that they were using us just because we are a certified MBE company. ...but they used us up to, I think, it was 25 percent and stopped...I called them, I had a meeting with them. They said, "... we met

our goal.” And it’s not because any other company was giving [them] a lower price because I said give me the invoice and I’ll match it.

I guess the biggest thing is just the attitude of the State.

A significant number of M/WBE firms have the perception that the majority contracting community continues to engage in discrimination but it is subtle.

I’m 100 percent in agreement that racism and discrimination is alive and well in just about every industry. It’s gotten to be extremely subtle in how it’s executed these days, and so if you are not savvy enough to pick up the nuances that you’re hearing, the code words, the code phrases that are being used, then you’re going to miss it, and you might feel it and not be able to put your finger on it that it is actually discrimination...but you know that it is.

My business card had my picture on it, and so someone said to me, “Oh, whatever you do, don’t put your picture on your card.” And I said, “Why?” ...They said, “Because you’ll never get hired because you’re Black.”

I’m senior management on most projects I’m on. I’m like the top...When they come in, if me or you are standing here, you could be my assistant, they will go to you first. Literally, they would walk up to you and ask you.... I’ve had come into—I’m at a trailer in a file cabinet getting some files out when the office person, girl wasn’t there, they’re like. “Yeah, hon, can you tell...I’m here to see him and can you get me a cup of coffee?”

Although discrimination is considered to be subtle, M/WBE firms reported that they continue to experience some forms of blatant discrimination. Some M/WBE firms reported that nonminority prime contractors intentionally undermine the performance of M/WBE firms on State contracts.

I developed and earned the trust of the people in positions of authority. But I still have employees who work for those clients and who have literally tried to sabotage my work so that I can get out of there so they can get back to business as usual.

The experiences of WBEs illustrate the impact of the glass ceiling and negative perceptions on their efforts to develop and grow professionally in the industry.

I have gone on interviews where I am in ...the running, three people, final cut. And I have spoken to this person about the job and they were questioning me about my skill, my everything, why I bid the job. I’m looking at this person as, “What do you mean why, I bid this job?... I’m in the business of making money...And he said to me, “Well, you know, women just simply shouldn’t be here.”

She started this company, like I said, in 1996, and she started it because her ideas weren't taken seriously in the engineering circles of the time. Her ideas about doing environmental compliance and environmental mitigation work in the face of engineering often resulted in being second thought or afterthought in the whole process...engineers in her firms were offered training, were offered an ability to go for ...certified engineer training... She, as an environmental scientist, had to pay for it herself...had to do self-improvement on her own nickel. And finally, as a woman, she was often the brunt of sexual innuendos...Those three things caused her to...put her shingle out...But those reasons, many of them still exist today. And you go into a ...design meeting of engineer firms, and you're going to see a lot of men sitting around the table and one or two women...So there is a disparity.

Several nonminority owners articulated a contrary position that the issue of race and gender should not be considered in the procurement process and that discrimination was no longer an issue.

First of all, do I think there is any discrimination? Is there some out there? Yes. Is it prevalent? I don't think so.

But I don't think it's race as it once was.

We've got some real issues and we have some real perception issues.... I know what the other side says. I don't share their opinion.... Ninety percent of what is going on in business has nothing to do with race or gender; it has to do with the color green, to be honest with you.

2. Workplace/Jobsite Harassment

Although less overt, there was little disagreement that racism and gender discrimination continue to persist in the State of Maryland public and private sector contracting.

I had a gentleman reach out to me. He was a sub...And what he did was he sent me a lengthy email about how they're using the N word towards him and his staff.

I actually sent one of my employees...a young lady...and she cried the whole way back...And I promised her I'd never send her back again.

3. Payment

There was uniform agreement across ethnic and gender groups that one of the most important issues was payment, by both the government and the prime contractor.

Nonminority construction firms reported that certain agencies in Maryland had significant delays in processing payments.

I think recently...everyone experienced delay in pay from ---...and I think it has to do with the changes in the organizations, a lot personnel change, shortage... We have noticed it's really causing some cash flow problems. Some of the invoices...routinely, six to eight months. We have invoices from last August we haven't got paid, quite a few of them.

[O]nce you're in and you're working for them, payment's a problem, I mean 180 to 200-day DSO, day sales outstanding, is common.

It takes a year to get your final payment...I have jobs that are two years old that I've not gotten final payment.

Minority- and women-owned firms also considered payment an issue and were particularly sensitive to the issue of payment and the negative impact delays in payment have upon their ability to succeed

I'm talking about I under-billed, so I would have been cheating myself out of two pennies because that's the way my software extended out the decimal points and it came back two pennies shorter than the way they did it, which was using two decimal points and mine took it out to four...but they kicked it back for two pennies... Started all over again.

[I]t makes it hard to grow to do more State work. You literally have to become financially capable as a tiny company first. ...It's also something that the primes don't get.

With the State, you know you're going to get paid, it's just a question of when, and what is that money worth...." Every day that you don't get paid in that 30 days, that dollar is depreciating. And by the time you get it, it's probably only worth two thirds of what you actually had because you[ve] been fronting it so long.

Some M/WBE companies advocated that the payment process with the State should be more transparent.

Is there any meaningful way to track payment besides calling the primes? Pennsylvania is pretty transparent. You can see when the primes get paid and when it's coming up and down through the chain.

Some M/WBE companies also expressed frustration in dealing with the prime contractors and the State on the handling of their payment issues.

So we had a contract where we had to move money. I sent a reallocation request to the prime who proceeded to just not do anything with it for three months. So, I couldn't bill for four months. Finally, after I bugged him repeatedly, nicely, because I didn't want to get my prime upset, he finally said, "Oh, my mistake. That was approved...two and half months ago."

My primary issue with getting paid is that as a subcontractor working for a State agency through a general contractor or a prime, when they don't pay you although you've got to guarantee you are paying all your subs. The State agencies don't assist because you don't have a contract with them.

You might be told particularly why there's a delay and sometimes they're legit. Sometimes the State may be holding up the money. It may be a short fall with the State or may be something going on with the government where they haven't gotten paid so they're not able to pay the sub. But the sub needs to be paid. When you take on as a prime, you take that responsibility on and I found that a real challenge.

This is not to imply or suggest that all M/WBEs' experiences with the State on payment issues are negative.

[B]ut if you go through the MBE office, they will advocate for you to get paid and, in fact, to the point where my prime wasn't getting paid and because I told them I was making the call because they haven't gotten paid either. So I called and they got all of us paid. But every agency doesn't have that. This was through [one particular agency].

Working with the State, our experience has been actually very positive, and let me explain. We do a lot of work with ***. They actually go through, they will check to see that we've been paid...and that's actually been a great advantage so I'm able to say, okay, I'm going to get paid eventually, so I'm willing to take more risks on more jobs and try to get on more teams. So I think from our experience, the payment, [has been] positive.

4. Exclusion from Industry Networks

The perspective of many M/WBE firms was that the close-knit nature of the construction industry intentionally or unintentionally contributes to the exclusion of minority firms from informal networks.

I've actually gone to do walkthroughs and stuff like that, and obviously it [does] exist, because there's women owned businesses... showing up with two guys. And we've been there where we've been doing the walkthrough and...it's like the good old boys club.

I'm in a totally different field with construction, not based upon color, it is still the good old boy club and I don't fit. And just a note, I belong to some very big professional organizations for construction. I have been approached to run payroll through my company so that the person can get the bid. I refused.

I've worked for a lot of different counties like for consultants and I've seen the different agencies throughout the State.... And honestly, to me [the good old boy network]...it's alive and well.

In construction it's about the team. Everybody has a team. And they don't want to break that team. They're forced to break it with the MBE laws. They're forced to break it. But if they don't have to do it, they don't...if they don't have to use the women, they won't. And the same thing, they don't have to use the minority, they don't.

We've run into the good old boy network, but it sort of is in reverse where the government employees now working with the prime contractors or subcontractors and they have previous relationships with the government employees, and they're the ones that are getting awarded the contracts because of their past history.

In an effort to avoid the negative impact of the "good old boy network" on the M/WBE's ability to conduct business, some firms have hired nonminority employees to interact with the State.

So we've been women owned for almost 15 years now...We saw a lot of our State business go away...I asked one of my senior salesmen if they would start developing a relationship with three of our top suppliers...And I will tell you, in those, in just within about a year, all of our support turned back around. They related better to him than they

related to me. And to this day, still, one of our suppliers can only deal with my white salesman.

It got so bad, my margins were hit so hard, I went ahead and hired a middle aged white man to be president of my company so I could get a seat at the table. And guess what? My margins went up 6 percent last year as a result of doing that. We shouldn't have to do that.

Now, here is what we've done in a couple different situations. We've actually had some non-minorities go to the table for us so that we were not there, and we got much better response in that situation [than] when it was just us presenting ourselves in the room.

I actually hired a Caucasian guy on purpose. Sat down and explained to him what I wanted to do. I said, "Look, I'm going to give you the same call list. I want you to call all of these folks and introduce the company, ask them can we meet with them." Every one of them on the list invited him to meet with the buyer.

5. Applying for Commercial Loans

Many M/WBE business owners stated that they found it difficult to obtain working capital. While perhaps not the direct result of discrimination by the lender, the exclusion of minorities from construction and other industries hampers their access to family wealth and networks that support growing businesses, making access to commercial credit all the more critical.

Several M/WBEs commented on the difficulty of getting financing with commercial banks.

We wanted to get financing. We went to --- [bank] and --- [bank]. We had our accounts there. They said bring your account to us, we will take care of you and get you the loans. We asked for \$5,000 loan one time, we got denied.

I went into a local bank and I was denied and I tried different [banks], with the relationship building and everybody was denying me. I finally went to another local bank and they looked at my credit. I had a house, I had good credit, my score was over 700, but it didn't have the history...so they wouldn't give me a loan. I had had it. I sat in the bank and I said, "This is bull, because I am a woman" and I usually don't say that, but I'd had it. I said, "Because I'm a woman business owner, you're not giving me a loan. I am not leaving here until you do."

Some of the primes say, “You can borrow from me.” If I were to get it from a bank, it might be 6 percent. Borrowing from them, it’s 9 or 10 percent. And then if you look at the P&L, you don’t make any profit if you’re on a seven-year lease until the last year.

I can’t get money from a bank. I have to self-finance. I started this with a dollar, literally. I mean I had \$1.50.

I had to secure my personal home which is how I have been funding everything with an equity loan from my real estate.

However, we went to the African-American newspaper, had a big meeting there, and this organization said, “Okay, let’s hear your story. We won’t look at what your revenue is. Tell me what your story is, where you’re going to go. If it makes sense to us, we’ll give you the loan.” So we had to go in front of them and pitch our speech to them and it worked and they got us the loan. But it was a little different criteria. It was not straight “let me see your numbers.” They wanted to know, “Do you have a vision to go to a certain area? Are you going to make it?” And they took a chance on us.

Access to capital in highway construction is especially important, and the lack of capital is a barrier because the field is relatively capital intensive.

At least in highway construction it really is a capital intensive program...I’ve got 50 trucks, I probably got 150 pieces of equipment. That’s a lot of capital.... [A] lot of these companies that I compete against [are] old companies like mine. They are second and third and fourth generation. [There are] very few first generation contractors in this business.

[T]he nuclear gauge and that’s what you use to measure the density and moisture in asphalt and different materials....It is a unique challenge because it can be thousands of dollars just to have the license for that equipment because it has nuclear—it has radiation in it.

Some M/WBE firms expressed mixed reviews, some complimentary others more critical, regarding State-sponsored programs designed to provide access to capital.

[T]here was a program in which the casinos are generating funds and they have to take a certain amount of their money and put it aside and make the money available to businesses, MBEs, small businesses in the State of Maryland [that] do not fit the profile

that --- [bank] or --- [bank] would [use to] give you a loan and they set up a separate fund that gave us funding. Now if I wasn't in the program, I wouldn't have gotten that.

I actually went to [the Maryland Small Business Financing Authority] when I needed financing. They actually took longer than the bank. While I was waiting for them, I went to a bank...and the bank gave me a loan while I was waiting for them.

Of course, the first part of the program is to help people to get business, but it's also supposed to help them grow their business and expand their business where they no longer need the program anymore, and I don't think that's occurring.

6. Applying for Surety Bonds

Many firms reported difficulty obtaining surety bonds. The underwriting standards were so strict and required that the firm post so much cash or have sufficient assets to secure the bond that they could not qualify. They saw bonding as a barrier to growing and taking advantage of opportunities.

I ran into problems with getting adequate bonding. Normally, in the course when you bid on a contract, they require you to have a minimum amount of bonding in place and I found that...I couldn't afford it....

So when the contract came up for rebid, what they did was they said, "You got to bid on the contract." I said, "Okay, I'll bid the contract."...what they came up with...this last bid session? You need a \$5 million bond in order for you to come down there and work at the stadium...So I couldn't do it.

I guess I should say it's a big challenge...the bonding issue, I think, is a big deal for MBE companies. Surety is based on financial strength, and the normal surety companies aren't going to look seriously at a lot of small companies.

We've had people practically signing their houses away to get bonded, because we don't have the past work experience, but you can't get the experience unless you get the job, but they won't bond you unless you had a job that was \$1 million.

Why do I, as a small business owner—again, I’m not talking about \$10 million dollars, I’m talking about a couple thousand dollars or less or whatever, why do I have to kick out so much money for a bond for a contract that I might not get or I won’t know if I get for 6 months to 12 months later?

7. Insurance

Several minority- and nonminority-owned firms were concerned about the insurance requirements and the high costs, particularly for professional liability insurance.

I’ve notice[d] in Maryland; I believe in the last couple of years...the tendency to raise professional liability [insurance] limits in contracts that we are involved in. ...If you are asking \$5 million worth of special liability insurance on a \$2 million fee, it’s disproportionate. What I am just saying is...I understand why you want professional liability insurance, and I agree with it...but the amount of insurance should be commensurate with the amount of work that you’ve done, not some figure that somebody came up with.

One of the unique challenges sometimes that small businesses face is getting professional liability insurance.

Well...the cost to do business with the State...I’m paying a crap load of money for insurance, and I haven’t even got a bid yet, it’s for the professional liability.

8. Obtaining Work on Public Sector Projects

a. Prime Contracts

Most M/WBEs expressed a desire to grow their firms and move from subcontractor to prime on public sector contracts.

We are 18 years old in May and we have been prime on everything we’ve done except maybe two or three contracts and those were for reasons of political jockeying and strategy to maybe get into something we hadn’t done before so we could get that past performance, so we could then do it in the future. But, it’s a huge challenge, as we all know, being entrepreneurs.

My issues are I just wish that there were better ways that I can become prime...in terms of development of staff and more long-term contracts, in terms of really becoming a bigger organization.

We don't want to be subcontractors for our entire career, but because it's no teeth in this program, and you're only looking at percentages and percentages for each contract.

Many M/WBE firms recognized that the State's change allowing the participation of M/WBE primes to be counted toward the goal was a significant improvement in the process.

As a general contractor, prime contractor, my minority [status] did not count. So for years, if I ran the job, it didn't count. They changed it now to where my self-performance, 50 percent of the minority can count towards me, which is a good step.

Many firms were also discouraged from pursuing prime contracts because of concerns about the commitment of the State of Maryland to be inclusive in the contracting process.

[A]nother issue is that design-build projects, now they are becoming popular, because they feel that...private owners that [it] saves money to them. For the design team, there is a problem usually, because we have some recent experience that we started to make some bridging documents and then when they go to design build, they say...we hire[d] this nationwide firm. I don't need you anymore.

[W]e got them to hold up and take a look at why it's not any minority participation on it. We finally got them to look at it again and they came back, well no minority participation. So, I had to take the director of procurement for --- into a computer and show them...minorities who are certified. So we put the NAICS code in and 11 people showed up. She had to take it back into the contracting officer and tell him he need[s] to look at it...He came back with 5 percent minority participation...Why just 5 percent?

I'll put on the MBE reporting what my issues are, what I've been doing, I've been contacting the prime...And I was in an MBE meeting yesterday...and the MBE representative...said, "Well, I don't even open it, because I get 1,000 of these reports a month, so I don't really open the reports."

Several M/WBE owners agreed that the program opened doors and created opportunities for firms.

But I found that the MBE Program does open some doors. It does get you in front of some people. It does at least get people to try your business, try your company...I think the program is a good program.

The MBE Program is; they've got two programs in the State of Maryland. They've got the MBE Program and they got the SBR Program. Both very good programs and if both programs didn't exist, we would not be here...where we are today with our company....

Since I joined the company and had the opportunity to start learning about MBE certification and to gain other certifications, I and my colleague...we've been able to access \$2 million worth of business. It would not have been possible—95 percent of it would not have been possible without the MBE program.

M/WBE firms explained that nonminority contractor violations and complaints about the program often go unreported because of fear of retaliation.

To file a complaint, no. But has it happened, yes, on all the others. But to file a complaint, to me would be kind of putting up a red flag...Basically you'll never work again.

We complained, it was a retaliation after we complained that we didn't get paid and they had been paid. It was clear discrimination....

There was an [advertisement] agency...that was interested in the contract and they contacted me and asked if I'd like to be a sub...[T]hey won the contract...I never heard from them again....I called and talked to somebody and they said, "Why don't you report them to the office of fair trading practices,"...I said, "No. Because that's like raising a flag to everybody else who might want to prime with me, or sub with me, that I'm a troublemaker."

b. Subcontracts

Although M/WBEs reported that it is easier to obtain subcontracts than prime contracts on public projects, the firm also expressed frustration with their prime-subcontractor relationships and the business practices of the primes.

They call you on the phone like the day of and I'll tell them, "Don't ask me for a waiver because I am going to write a letter or an email to the MBE office that you have called me up an hour before the bid."

M/WBE firms uniformly complained that the minority firms are not solicited in good faith or not used as listed in the Contractor's schedule of subcontractors.

I get a lot of requests for me to bid on proposal...It seems to me that a lot of these bigger companies when they are sending out these RFPs and they are requesting for your bid,

they are not really looking at who the DBE companies are, they are just looking for a DBE company because they have to check off a checkbox...

[L]ater on two contracts with the biggest bus companies in the United States who used our name on contracts for the State of Maryland. We were not aware of this. But because I attend a lot of events, somebody...said, "Congratulations, you have a contract", I said, "With who?"

I've had an experience...where the contractor bid it, put our name in, and what we were told was that the State did a random compliance check and came across the document that had our name as being a part of the award and they alerted us to the fact that we were on that award.... they ended up buying the product from another competitor....

There are times when the prime will use us and our expertise and our past performance to win the contract, and once the contract is won, many times, we're not part of that or we don't get the dollars we were initially promised.

But the [letters of intent] don't get enforced... They always come back with, can you do it for less? Well, I already signed a letter of intent. Where's the number on the letter of intent? And they tell us, don't fill in the number, we'll fill that in later. This is my number, why wouldn't I fill it in now?

M/WBE firms uniformly complained that the nonminority prime contractors' efforts to include M/WBE firms were pro forma and that their efforts were not designed to achieve the M/WBE participation goals.

Same thing as I keep saying, two or three days before the bid is due. So I called the office...and said, "listen I would really like to bid on this but I need more than three days...." And the women on the phone said, "Don't worry about it, we've already picked a person. We just need to send that out as part of the requirements."

I just got a gentleman for my company now who just called me and wanted me to bid on painting at ---. He sent me the request, but would not send me the access to get into the files. So for two weeks I called the office, I sent him emails, I tried to get in touch with him. So he finally calls me and says, "Sorry, I was away for two weeks. Here I can give you the access now, but it's due tomorrow.

The problem is, they don't give us the chance to bid in a timely fashion. If a prime contractor says, "I really want to bid on this," they should start that day looking for us, not wait.

Some M/WBE firms also complained that the type of work subcontracted by nonminority primes in professional services was not substantive and calculated only to reach their participation toward the goal.

The engineering firms don't particularly want to give away their drawings. They keep that close to their chest.... They will ask minority businesses to do certain tasks that are less favorable, perhaps landscape, simple things...

I mean, some of the projects I've done, it's like, I can't believe I'm a PE and this is what you want me to do—I'm essentially a secretary—so that I can have this opportunity.

They don't want to give away their core work.

I had a senior environmental scientist go on site visits at *** facilities to take photos and notes. And he and I were in the office and he's like, "I can't believe it." I said, "Listen do the best job taking notes and photos that you possibly can."

So I had a 30 percent goal...So the only other thing I could think of to do at the time was to go out and hire another architect...Now this is an MBE firm...But the problem was, we had trouble figuring out exactly what he was going to do...I said, "We don't have anything for design. We're going to pay you a fee. You're going to get a fee no matter what. ...We'll probably end up sending you to meetings during construction so that you can earn your part of the fee." We got into construction, that made no sense... We're just going to pay your fee.

Some M/WBE companies reported good experiences working on State construction projects as a subcontractor.

I work primarily as a subcontractor, but working with ---, --- and ---, the actual quality of the work and the exposure to those larger contracts that we get as being a subcontractor of the work, it's always been great.

9. Obtaining Work on Private Sector or “Non-Goals” Projects

M/WBEs providing construction services uniformly continue to find private sector prime contractor work (other than small residential and commercial projects) very difficult to obtain. Most M/WBEs, particularly those owned by African Americans and Hispanics, are often limited to public sector projects. Minority firms in particular reported that general contractors who use them successfully and repeatedly on public sector projects with M/WBE goals rarely or never contact them to bid private work.

[W]hy is it the only time that they contact me is when there’s a participation required? Never am I contacted just for the private work or the negotiated work, but I am only good enough when there’s participation required.

[O]ne of the big issues for minority contractors are contractors have certain lists. Our problem is, we’ve got to get off the minority contractor list, because as long as you’re on that list, needless to say...they call when they need a minority contractor.

You’ve got to build the relationships. That’s true regardless. It took a while just to build the relationships to get the MBE piece. ...So it is a long process to get there, but the bottom line is they bid every day on all kinds of projects that if indeed we could be a part of, we’d be billionaires, I suspect. But when they don’t have to include you, they don’t. They just don’t.

When there’s no goal for women on these contracts, GC’s don’t hire them. It’s real simple. It is not rocket science.

The paucity of private sector opportunities means that some M/WBEs, despite having the capacity to take on more projects, have to cut staff when public jobs are finished because they receive no or very limited private sector work. This negatively affects their capacity to do future projects.

D. Conclusion

Consistent with other evidence reported in this Study, our interview information strongly suggests that M/WBEs continue to face discriminatory barriers to full and fair participation in both public and private sector contracts in the State of Maryland Market Area. This evidence includes negative perceptions of M/WBE competence and qualifications; being held to higher performance standards than for non-M/WBEs; harassment at the workplace/jobsite; abuses by primes of the payment process, and in the compliance process; exclusion from industry networks; discrimination in access to commercial loans, surety bonds, and commercial or professional insurance; difficulties in obtaining work on public sector projects; and difficulties

obtaining work on private sector or “non-goals” projects. The results of these surveys and personal interviews have yielded the types of evidence that the courts have found to be highly probative in deciding whether an entity such as the State of Maryland has been and/or continues to be a passive participant in a discriminatory market area, particularly when considered in conjunction with the numerous pieces of statistical evidence assembled and presented throughout this Study.

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VIII. The State of Maryland's Minority Business Enterprise Program: Overview and Feedback Interviews

The State's Minority Business Enterprise ("MBE") Program seeks to provide opportunities for minority-owned and women-owned business enterprises to participate fully and fairly in State contracting. State agencies currently have an aspirational goal of spending 29 percent of all State contract and procurement dollars directly or indirectly with certified MBEs.¹⁷⁵ The State has also implemented a Small Business Reserve program that provides for a 10 percent setaside for qualified small business enterprises. The Maryland Department of Transportation ("MDOT") must also remove barriers to the participation of Disadvantaged Business Enterprises ("DBEs") and Airport Concessions Disadvantaged Business Enterprise ("ACDBEs") in its U.S. Department of Transportation-assisted contracts, and strive to achieve the aspirational goals established in its DBE and ACDBE goal-setting documents prepared pursuant to 49 C.F.R. Part 26 and Part 23, respectively. Consistent with Part 26, MDOT has also implemented a Small Business Enterprise ("SBE") Program for federally funded contracts.

A. History of the MBE Program

The General Assembly enacted the State's first MBE Program law in 1978, based upon hearings and testimony regarding the underutilization of minorities in State procurement.¹⁷⁶ The General Assembly found that MBEs had experienced the effects of past discrimination in the award of contracts and/or subcontracts for the purchase of materials, supplies, equipment and services for the benefit of the State. The effect of such discrimination may have been to impede the economic development and expansion of minority businesses. The first MBE law required that 10 percent of the dollar value procurements for the University System of Maryland ("USM"), the Department of General Services ("DGS"), MDOT, the Food Center Authority, and the Interagency Committee on Public School Construction ("IACPSC") be awarded to MBE prime contractors and subcontractors.¹⁷⁷ This first enactment served as a policy directive to the Executive Branch.

In 1981, the MBE statute was repealed and re-enacted, with amendments providing for sanctions for firms that misrepresented themselves as MBEs.¹⁷⁸ In 1983, the MBE law was broadened to include all State departments and agencies. The Department of Budget and Management was added to the list of designated agencies, and the Board of Public Works was given the authority to draft regulations consistent with the Program's objectives.¹⁷⁹ In 1988, the State set a goal for

¹⁷⁵ COMAR 21.11.03.01.C.1. "Certified MBEs" refers to both minority-owned and women-owned firms that have been certified under the State's MBE Program. *See* Md. Code Ann., State Fin. & Proc. §§14-301(d), (f), (k).

¹⁷⁶ Originally codified in former Article 41, §14F, Annotated Code of Maryland.

¹⁷⁷ The IACPSC operates differently than any other State agency as it provides matching funds for school construction projects to 24 separate school districts. Where State funds are used for public school construction projects overseen by the IACPSC, the State's MBE laws are applied.

¹⁷⁸ Codified in former Article 41, §14F, Annotated Code of Maryland.

¹⁷⁹ Chapter 193, Laws of Maryland, 1983, codified at Article 21, Procurement, §8-601, Annotated Code of Maryland.

certain departments of 10 percent MBE participation and adopted regulations to implement the Program.

In 1990, in response to *City of Richmond v. Croson*, Coopers & Lybrand completed a Minority Business Utilization Study that determined that Maryland possessed a compelling interest in continuing the MBE Program. Based on this study, the MBE Program was re-enacted by the Maryland General Assembly in 1990. The 1990 legislation also authorized a new study to determine the State's compliance with *Croson* to be completed before the newly established 1995 sunset date for the MBE Program.¹⁸⁰

The State commissioned three additional studies of the MBE Program, issued in 1994,¹⁸¹ 2001,¹⁸² and 2006,¹⁸³ and based on these studies, the Maryland General Assembly re-enacted and reauthorized the MBE Program in 1995, 2001, and 2006, respectively.

The most recent study was completed by NERA Economic Consulting in 2011 and submitted to the Maryland General Assembly for consideration.¹⁸⁴ The General Assembly subsequently reauthorized the MBE Program¹⁸⁵ based in part on the findings from the 2011 study:

The 2011 and 2012 legislation *inter alia*: continued to require an overall aspirational statewide MBE goal, but directed that the goal number be set by regulation every two years rather than by statute; clarified the process for establishing contract-level MBE goals; eliminated statutory subgoals for African Americans and women; and directed the Governor's Office of Minority Affairs ("GOMA") to issue periodic guidance for setting subgoals.¹⁸⁶ The current MBE Program statute and any regulations promulgated under it expire July 1, 2017.¹⁸⁷

Finally, NERA was retained in late 2014 to prepare this current Study of the MBE Program.

B. MBE Program Overview

1. Program eligibility

Title 14, subtitle 3 of the State Finance and Procurement Article, "Minority Business Participation," outlines the general legislative framework for the State's MBE program.¹⁸⁸

¹⁸⁰ Chapter 708, Laws of Maryland, 1990, codified at State Finance and Procurement Article, §14-301 *et seq.*, Annotated Code of Maryland.

¹⁸¹ National Economic Research Associates, Inc. (1994).

¹⁸² National Economic Research Associates, Inc. (2001).

¹⁸³ NERA Economic Consulting (2006).

¹⁸⁴ NERA Economic Consulting (2011).

¹⁸⁵ Chapter 252 and 253, Laws of Maryland, 2011, and Chapter 154, Laws of Maryland, 2012, codified at State Finance and Procurement Article, §14-301 *et seq.*, Annotated Code of Maryland.

¹⁸⁶ Md. Code Ann., State Fin. & Proc. §14-302.

¹⁸⁷ *Ibid.* §14-309.

¹⁸⁸ *Ibid.* §14-301 *et seq.*

Section 14-301 is the definitions section and provides some of the key definitions for the MBE program. A Minority Business Enterprise is defined as a legal entity organized to engage in commercial transactions which is owned at least 51 percent by one or more socially and economically-disadvantaged individual(s) and managed and controlled by one or more of the socially and economically disadvantaged individual(s) who own it.¹⁸⁹

A key component of the MBE program is the rebuttable presumption that certain groups are socially and economically disadvantaged.¹⁹⁰ Provided the presumption is in accordance with the State's most recent disparity study, a "socially and economically disadvantaged individual" includes members of the following minority groups:¹⁹¹

- African American;
- American Indian/Native American;
- Asian;
- Hispanic;
- Women; and
- Physically or mentally disabled.¹⁹²

A socially disadvantaged individual is an individual who has been subject to racial or ethnic prejudice or cultural bias because of their membership in the above listed groups.¹⁹³ An economically disadvantaged individual is a "socially disadvantaged individual whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same or similar line of business who are not socially disadvantaged."¹⁹⁴ The firm's minority or woman owner(s) must be economically disadvantaged, as evidenced by his or her Personal Net Worth not exceeding a specified cap, as indexed for inflation. Effective January 2016, the cap increased to \$1,674,928.¹⁹⁵

Another criteria for eligibility under the MBE Program is that the firm must be a small business in accordance with the size standards prescribed by the Small Business Administration (SBA)

¹⁸⁹ *Ibid.* §14-301(f).

¹⁹⁰ *Ibid.* §14-301(k)(2).

¹⁹¹ *Ibid.* §14-301(k)(i).

¹⁹² The presumption for the physically or mentally disabled groups requires that such individuals must demonstrate that they have an impairment that substantially limits one or more major life activities and is regarded by the community as having a disability. The disability must also substantially limit the ability to engage in competitive business. *See* Md. Code Ann., State Fin. & Proc. §14-301(k)(i)5.

¹⁹³ *Ibid.* §14-301 (l).

¹⁹⁴ COMAR 21.11.03.03B.5.a.

¹⁹⁵ Maryland Department of Transportation (2016a).

under 13 CFR Part 121. If, after certification, a firm meets or exceeds SBA size standards, the firm no longer meets the Program's eligibility requirements.¹⁹⁶

The Board of Public Works ("BPW") is responsible for adopting regulations regarding the MBE Program, including designating a State agency to certify and decertify minority- and women-owned businesses.¹⁹⁷

Pursuant to this designation, the Maryland Department of Transportation ("MDOT") Office of Minority Business Enterprise ("Office of MBE") is charged with certifying MBE firms and maintaining an MBE Directory for use by all State agencies and the general public.¹⁹⁸ The Office of MBE is also required to maintain a directory of all MBEs that are no longer eligible for certification because they exceed the Personal Net Worth requirements and/or the business size standards.¹⁹⁹ After the Office of MBE completes its review and evaluation of the application for certification and the supporting documentation, the Minority Business Enterprise Advisory Committee makes recommendations concerning the certification of firms seeking certification or an expansion of services.²⁰⁰ MBE certifications are subject to annual review for continuing eligibility.²⁰¹

The Maryland General Assembly has made it a felony offense, punishable by a fine not to exceed \$20,000 and/or imprisonment for up to five years, to fraudulently obtain or attempt to obtain MBE certification.²⁰² It is also a felony offense for a contractor to include a certified MBE firm in a proposal or bid and fail to (1) obtain the firm's authorization, (2) notify the certified MBE of its inclusion prior to execution of the contract, or (3) fail to use the certified MBE in the performance of the contract.²⁰³ A person that makes a false statement about whether an entity is certified is guilty of a misdemeanor offense punishable by a fine and/or a maximum of one year's imprisonment.²⁰⁴

¹⁹⁶ COMAR 21.11.03.15.

¹⁹⁷ Md. Code Ann., State Fin. & Proc. §14-303. The BPW is also responsible for outlining the procedures and solicitation documents to carry out the purposes of the MBE Program. Generally, the BPW's regulatory authority includes adopting comprehensive regulations and requirements related to all aspects of the procurement process including solicitation documents, minority subcontractor utilization, liquidated damages and graduation from the program.

¹⁹⁸ COMAR 21.11.03.03.B.2. MDOT also has responsibility for certifying DBEs and ACDBEs.

¹⁹⁹ Md. Code Ann., State Fin. & Proc. §14-304.

²⁰⁰ COMAR 21.11.03.16.

²⁰¹ Maryland Department of Transportation (1999) (as amended February 2009 & July 2014), p. 57.

²⁰² Md. Code Ann., St. Fin. & Proc. §14-308(a).

²⁰³ *Ibid.* §14-308(a)(2).

²⁰⁴ *Ibid.* §14-308(b).

2. Program operations

In general, designated agencies must attempt to achieve the current overall State goal of spending 29 percent with certified MBEs.²⁰⁵ The IACPSC requires all public school boards to adopt similar regulations for MBE participation before obtaining State funds for public school construction.²⁰⁶

a. Governor's Office of Minority Affairs

GOMA is a cabinet-level state office that is involved with oversight of two procurement programs: the MBE Program and the Small Business Reserve ("SBR") Program. GOMA's mission is to strengthen and preserve Maryland's MBEs by facilitating MBE activities through coordinating and promoting government programs aimed at strengthening and preserving the State's minority- and women-owned businesses. GOMA is also responsible for coordinating the work of the State agencies in the implementation of the MBE program and small business initiatives. As the State's cabinet level advocate for minority businesses, GOMA assists minority and small business owners who seek State procurement opportunities. GOMA may also facilitate the resolution of issues raised by minority and female business owners who believe they are victims of discrimination or have been treated unfairly by a State agency or other entity.

The Special Secretary of GOMA, in consultation with the Secretary of Transportation and Attorney General, is tasked with the responsibility of establishing overall goals, subgoal guidelines, guidelines for contract goal-setting, and other policies governing the implementation of the MBE program.²⁰⁷ In establishing overall goals and subgoal guidelines, the Special Secretary is to consult with the business community including minority, women and general contractor groups. Guidelines for contract goal-setting must be consistent with the statutory requirements for contract goals, which include consideration of the potential subcontracting opportunities, the availability of certified minority- and women-owned businesses, and a number of other factors.²⁰⁸

b. Agency responsibilities

The head of each procurement agency appoints an MBE Liaison Officer that provides the direct interface between bidders, MBEs and the agencies.²⁰⁹ The MBE Liaison Officer reports directly to an agency's Secretary, Deputy Secretary, or procurement agency head. The MBE Liaison Officer is generally responsible for coordinating the agency's MBE outreach, ensuring prime and subcontractor compliance on contracts containing MBE commitments, assisting in the resolution

²⁰⁵ *Ibid.* §14-302.

²⁰⁶ Md. Code Ann., Educ. §5-301(d)(3)(v); COMAR 23.03.03.06.D.

²⁰⁷ Md. Code Ann., St. Fin. & Proc. §14-302 (a)(2) & (a)(3)(ii).

²⁰⁸ *Ibid.* §14-302 (a)(1)(ii)-(vi); §14-302 (a)(2) & (3).

²⁰⁹ COMAR 21.11.03.05.

of contract issues involving MBE firms, and collecting and submitting MBE program reports or information as required.²¹⁰

As indicated above, MDOT maintains a central electronic directory of certified firms that is available to the public on the Internet. The certification database contains the type of services provided by MBE firms and their associated contact information.²¹¹ The purpose of the directory is to provide a resource for State agencies and contractors seeking to identify certified firms to potentially do business with.

In coordination with GOMA, procurement agencies are also responsible for taking race-neutral measures to facilitate the inclusion of MBE and small businesses in State procurements. Procurement officers, sometimes coordinating with GOMA, may engage in outreach activities to notify MBEs of new opportunities by meetings, seminars, and other means.²¹² GOMA is also charged with providing seminars and meetings to address topics of interest to the MBE community related to doing business with the State.²¹³ Further, procurement agencies may not bundle contracts, and they are prohibited from using evaluation criteria or solicitation or contract requirements that unreasonably hinder or restrict the participation of MBE firms.²¹⁴

On an annual basis, each procuring agency forwards GOMA a list of all known regularly occurring procurement solicitations reasonably expected to be in excess of \$100,000. GOMA then prepares a master list of State procurement opportunities and coordinates outreach with the procuring agencies to facilitate the participation of minority businesses.²¹⁵

All solicitations issued by procurement agencies for construction contracts in excess of \$50,000 are required to be assessed to determine the potential for certified MBE participation. Each agency also reviews and evaluates upcoming procurement opportunities to determine the appropriate strategies to facilitate MBE participation. When setting contract-specific goals for particular goods and services, the procuring agency is required to consider a variety of factors.²¹⁶ Contract goals should vary depending on the availability of MBEs, the anticipated scope of work of the contract, the feasibility of subcontracting opportunities, and the geographic region within which the goods and/or services will be procured.²¹⁷ The use of quotas by State agencies in the goal-setting process is expressly prohibited.²¹⁸ An agency head or designee may also waive the

²¹⁰ *Ibid.*

²¹¹ *Ibid.* 21.11.03.06.

²¹² *Ibid.* 21.11.03.07.

²¹³ Md. Code Ann., St. Gov't. §9-305(b)(2); COMAR 21.11.03.07.C.

²¹⁴ Md. Code Ann., St. Fin. & Proc. §14-302(a)(3)(i); COMAR 21.11.03.07.F. & COMAR 21.11.03.07.H.

²¹⁵ COMAR 21.11.03.08.

²¹⁶ *Ibid.* 21.11.03.09.B.

²¹⁷ *Ibid.*

²¹⁸ Md. Code Ann., St. Fin. & Proc. §14-302(a)(4); COMAR 21.11.03.09.B.4.

MBE requirements in the public interest for sole source, expedited, or emergency procurements.²¹⁹

When a solicitation includes a stated MBE goal, each bidder/offeror must complete and submit an MBE utilization affidavit acknowledging the MBE participation goal and commit to making good faith efforts to achieve the goal. Each bidder/offeror must also identify proposed MBE participation at the time of the submittal by providing a completed participation schedule that includes the name and percentage of the contract committed to each certified MBE proposed to be used in the contract. By submitting a bid or proposal, the bidder/offeror agrees that MBEs will perform the percentage of the total dollar amounts of the contract as specified in its submission.²²⁰

If unable to meet the MBE participation goal, the bidder or offeror may request a waiver. To receive a waiver, the bidder/offeror must, upon request, submit detailed documentation of its good faith efforts to meet the goal, including a statement of the work allocated to MBE participation and the efforts made to identify, contact, and negotiate with MBEs available to perform the work prior to submission of the bid/proposal.²²¹ An agency may grant a waiver request if: (a) the contractor reasonably demonstrates that it could not obtain certified MBE participation; (b) such participation could not be obtained at a reasonable price, or in the appropriate MBE classification; and (c) the agency determines that a waiver is in the public interest.²²² In determining whether to grant or deny a waiver request, the procurement agency's head may consider: engineering estimates; catalogue prices; general market availability; geographic availability of certified MBEs; the impact on the State's overall contract cost of other bids or offers (including subcontract bids or offers) with significant differences between certified MBE and non-MBE costs; and any other relevant factors.²²³ If a waiver is granted, a copy of the waiver determination must be maintained in the agency's records and a copy sent to GOMA.²²⁴

All contracts containing certified MBE participation goals shall include language that provides for liquidated damages if the contractor fails to comply with the MBE laws or regulations related to the procurement.²²⁵

When a certified MBE participates in a contract, the procurement agency may only count the participation of an MBE firm that performs a commercially useful function. An MBE performs a commercially useful function if it is responsible for actually performing, managing and supervising the work involved in the contract.²²⁶ If a certified MBE prime contractor is awarded

²¹⁹ Md. Code Ann., St. Fin. & Proc. §14-302(a)(9)(iii).

²²⁰ COMAR 21.11.03.09.C.5.

²²¹ *Ibid.* 21.11.03.11.

²²² *Ibid.* 21.11.03.11.B.

²²³ *Ibid.*

²²⁴ *Ibid.* 21.11.03.11.D.

²²⁵ *Ibid.* 21.11.03.10.E. *See also* Maryland Governor's Office of Minority Affairs (2016a).

²²⁶ *Ibid.* 21.11.03.12-1.B.

the contract, the MBE prime may count 50 percent of the work performed with its own forces toward the MBE goal and up to 100 percent of the relevant subgoal.²²⁷

Each agency is required to maintain records of MBE utilization on the contracts the agency has awarded. Within 90 days after the end of the fiscal year, each State agency must submit an annual report to GOMA stating its MBE accomplishments from the prior fiscal year. The report includes both the dollars and percentage of MBE participation on State procurement contracts.²²⁸ The report contains dollars awarded and dollars paid to MBE prime contractors and subcontractors as well as the number of waivers granted. The report also includes a brief description of the agency's outreach efforts to MBE businesses.²²⁹ GOMA compiles the data reported by each agency and submits an annual report to the Governor summarizing the MBE participation achieved by each agency and for the State as a whole. The Legislative Policy Committee directs a standing committee from the House of Delegates and the State Senate to review the reports.

C. Race-Neutral and Gender-Neutral Initiatives

As discussed in Appendix B, a crucial element of narrowly tailoring a race- and gender-conscious program is the use of race- and gender-neutral measures²³⁰ to help eliminate unreasonable barriers to MBE participation in State contracting and procurement. This section provides an overview of some of Maryland's race neutral measures.

1. Small Business Preference Program

The State's Small Business Preference ("SBP") Program provides a bid preference for small businesses. The program is designed to assist small businesses in obtaining State contracts. The SBP Program applies to the procurements made by DGS, the University System of Maryland ("USM"), Morgan State University, MDOT, and, in connection with the construction of State correctional facilities, to procurements made by the Department of Public Safety and Correctional Services. Under this Program, a qualifying small business may receive up to a 5 percent price preference. Up to an additional 3 percent price preference may be granted for a disabled veteran-owned small business or a 2 percent preference for a veteran-owned small business.²³¹

The SBP price preferences allow a small business to win a given contract even if its responsive bid exceeds the lowest responsive bid, as long as it exceeds it by no more than the applicable

²²⁷ *Ibid.* 21.11.03.12-1.D.

²²⁸ Md. Code Ann., St. Fin. & Proc. §14-305.

²²⁹ COMAR 21.11.03.17.

²³⁰ "Race-neutral methodologies" refers to procedures that can be used to assist all businesses notwithstanding the social, economic, racial or sexual composition of those who own or control the business. *See* COMAR 21.11.03.03.B.13.

²³¹ COMAR 21.11.01.01 *et seq.*

price preference percentage.²³² Contracts with a small business preference will state that in the solicitation and will cite the preference percentage.²³³

The agencies subject to the SBP are required to maintain a list of eligible small businesses and to adopt other procedures to facilitate the involvement of small businesses in the public procurement process.²³⁴ DGS administers the small business self-certification process on behalf of the participating agencies. Based on its "Small Business Affidavit" form, DGS designates vendors as small businesses and includes them on its "Small Business" vendor list. A business is required to reapply for qualification every year by the anniversary date of its initial certification. A firm's gross sales and employment data are also required to be verified annually.²³⁵

2. Small Business Reserve Program

Like the SBP Program, the Small Business Reserve ("SBR") Program is also designed to assist small businesses in obtaining State contracts. However, rather than establishing a price preference, such as in the SBP, the SBR sets aside certain contracts exclusively for competition among qualifying small businesses.²³⁶

The SBR Program was created in 2004 and its goal is to support the economic viability of small businesses by guaranteeing that an eligible contract will be awarded to a qualified small business.²³⁷ The Program requires 23 designated State agencies to structure their procurement processes so that at least 10 percent of their total procurement dollars are spent with qualified small businesses.²³⁸ An invitation to bid or request for proposals issued under the SBR Program will state that it has been designated as an SBR solicitation and an award can only be made to a registered SBR vendor.²³⁹

Each fiscal year, SBR participating agencies are required to prepare a forecast that identifies total projected expenditures along with a plan allocating at least 10 percent of those expenditures to qualifying small businesses.²⁴⁰ The SBR forecasts must be submitted to GOMA within 60 days of final approval of the State budget by the General Assembly. Agencies are also required to submit an annual report to GOMA summarizing their SBR activity over the previous fiscal year.²⁴¹ In fiscal year 2015 (the most recent year for which data is available), 10.6 percent of all

²³² Maryland Department of Legislative Services, Office of Policy Analysis (2014), p. 23.

²³³ Maryland Department of General Services (2016a).

²³⁴ Md. Code Ann., State Fin. & Proc. §14-204.

²³⁵ COMAR 21.11.01.04.

²³⁶ *Ibid.* 21.11.01.01 *et seq.*

²³⁷ Md. Code Ann., State Fin. & Proc. §14-501 *et seq.*

²³⁸ COMAR 21.11.01.01 *et seq.* See also Md. Code Ann., State Fin. & Proc. §14-501 *et seq.*

²³⁹ Maryland Department of General Services (2016a).

²⁴⁰ COMAR 21.11.01.06.D.1.

²⁴¹ Md. Code Ann., State Fin. & Proc. §14-505.

payments made by the 23 participating agencies (or \$418.7 million) went to participating SBR vendors.²⁴²

Only qualified small businesses may participate in the SBP and SBR programs. For purposes of these two programs, a “small business” is defined as a for-profit business, other than a broker, that is independently owned and operated, not a subsidiary of another business and not dominant in its field of operation. Other criteria also apply by procurement category as follows:

- Its wholesale operations did not employ more than 50 persons or its gross sales did not exceed \$4,000,000 in its most recently completed three fiscal years;
- Its retail operations did not employ more than 25 persons or its gross sales did not exceed \$3,000,000 in its most recently completed three fiscal years;
- Its manufacturing operations did not employ more than 100 persons or its gross sales did not exceed \$2,000,000 in its most recently completed three fiscal years;
- Its service operations did not employ more than 100 persons or its gross sales did not exceed \$10,000,000 in its most recently completed three fiscal years; and
- Its construction operations did not employ more than 50 persons or its gross sales did not exceed \$7,000,000 in its most recently completed three fiscal years.
- The architectural and engineering services of the business do not employ more than 100 persons, or the gross sales of the business do not exceed an average of \$4,500,000 in its most recently completed three fiscal years.²⁴³

If a business is less than three years old, the gross sales average is computed for the entire period it has been in existence. For newly formed businesses, the determination is based on employment levels and projected gross sales.²⁴⁴

The SBR Program is managed by GOMA, which is charged with establishing guidelines for SBR Program administration, ensuring agency compliance with the SBR Program requirements, providing training and technical assistance to agency personnel, maintaining a database of qualifying small businesses, and collecting data regarding the State's utilization of SBR vendors.²⁴⁵

3. Maryland Small Business Development Financing Authority

The Maryland Small Business Development Financing Authority (MSBDFFA)²⁴⁶ was created in 1978 to assist in the promotion of business growth in the State for businesses owned by socially

²⁴² Maryland Governor's Office of Minority Affairs (2015), p. 20.

²⁴³ COMAR 21.01.02.01.B.80.

²⁴⁴ *Ibid.* 21.11.01.04.

²⁴⁵ Md. Code Ann., State Fin. & Proc. §14-503.

²⁴⁶ Md. Code Ann., Econ. Dev. §5-501 *et seq.*

or economically disadvantaged persons in Maryland. The MSBDFA statute was expanded in 2001 to include any small business that does not meet the established credit criteria of financial institutions and commercial sureties, and consequently, is unable to obtain adequate business assistance on reasonable terms through normal financing and bonding institutions. A major criterion for approval is the economic impact of the loan, investment or guaranty, via employment opportunities and tax base increases. The MSBDFA Program is overseen by the Maryland Department of Commerce ("DOC").²⁴⁷ The DOC, in turn, employs the Meridian Management Group to manage the program on its behalf.²⁴⁸

MSBDFA offers four major assistance programs:

Contract Financing Program. This Program provides financial assistance to eligible small businesses in the form of loans and loan guaranties. Loan funds can be used for working capital or the acquisition of equipment to begin, continue and complete work on contracts that receive the majority of their funding from government agencies or public utilities. Financing is limited to \$2 million and must be repaid during the term of the contract, with interest rates ranging from the prevailing prime rate to prime plus two percent. Applicants may also qualify for financing before contract award.²⁴⁹

Guaranty Fund Program. This Program provides financial assistance to eligible small businesses through loan guaranties and interest rate subsidies for loans made by financial institutions. The loans can be used for working capital, the acquisition and related installation of machinery or equipment, refinancing of existing debt, or the purchase of, and improvements to, real property owned or leased by the applicant. A loan guaranty cannot exceed the lesser of 80 percent of the loan value or \$2 million. Guarantees cannot exceed 10 years with an interest rate charged by the financial institutions limited to prime plus two percent. The Program can also subsidize up to four percentage points of the interest being charged by the financial institutions making the loans. The subsidy is negotiated directly with the borrower and may be reviewed annually.²⁵⁰

Surety Bond Program. This Program assists eligible small businesses in obtaining bid, performance or payment bonds necessary to perform on contracts where the majority of funds are provided by a government agency, public utility company or private entity. The Program directly issues bonds or guarantees a surety's losses incurred as a result of the contractor's breach of a bond. Directly issued bonds are limited to \$5 million. Guaranties are limited to 90 percent of the face value of the bond not to exceed \$5 million. Guaranties remain in effect for the duration of the surety's exposure under the bond. Directly issued bonds remain in effect for the duration of the qualified contract and any related warranty period. Bond premiums generally range from 2-3 percent. A surety bond revolving line of credit may also be established to directly

²⁴⁷ Formerly the Department of Business and Economic Development.

²⁴⁸ Maryland Department of Business and Economic Development (2014), p. 1.

²⁴⁹ *Ibid.*

²⁵⁰ *Ibid.*

issue or guaranty multiple bonds to a client within pre-approved terms, conditions and limitations.²⁵¹

Equity Participation Investment Program. This Program helps to expand business ownership by socially and economically disadvantaged entrepreneurs and small businesses that do not meet the established credit criteria of financial institutions and are unable to obtain adequate business financing on reasonable terms through normal financing channels. Financial assistance is provided through the use of loans, loan guaranties, and equity investments. The proceeds may be used for the specific purpose of purchasing a franchise, acquiring an existing profitable business, developing a technology-based business, or to start or expand other types of small businesses. All equity investments must be repaid by the end of the seventh year. The most common form of repayment is for the owner to buy back the Program's investment at a predetermined price between the fourth and seventh year. The repaid amount is required to be the greater of its percentage of the current value of the business or the initial investment. Investments under the Program are limited to a maximum of \$2 million and the typical projects that are financed generally range from \$100,000 to \$3 million. At the end of the term of financing assistance, if MSBDFA and the client are unable to agree on the value of an investment, an independent appraiser is used to make a fair market value determination. As of October 2013, the Program uses the U.S. Small Business Administration size standards to define "Small Businesses" that are eligible for financing assistance.²⁵²

Collectively, from its inception in 1980 through the end of fiscal year 2014 (the most recent year for which the MSBDFA Annual Report is available), these four MSBDFA programs have financed approximately 859 transactions for approximately 625 businesses. MSBDFA's current portfolio as of the end of fiscal year 2014 was comprised of 76 transactions with an aggregate exposure of \$18 million, with another 29 transactions pending or under consideration with a value of \$6.1 million.²⁵³

Small businesses that progress beyond the need for financial assistance from the MSBDFA program are classified by MSBDFA as graduates. In some cases, these businesses can now qualify for loans or surety assistance from private lenders or surety companies with minimal or no support from the MSBDFA. Graduates also include companies that successfully repay their loans or satisfactorily have their bonds released and no longer require financial assistance. During fiscal year 2014, eight companies graduated from the MSBDFA program.²⁵⁴

4. Maryland's Linked Deposit Program

Maryland's Linked Deposit Program ("LDP") is a statewide initiative designed to stimulate opportunities for small businesses, including MBEs, by reducing the interest rate on loans they obtain from participating banks.²⁵⁵ Businesses that notify the Maryland Department of Housing

²⁵¹ *Ibid.*

²⁵² *Ibid.*, p. 2.

²⁵³ *Ibid.*, p. 3.

²⁵⁴ *Ibid.*, p. 6.

²⁵⁵ Md. Code Ann., State Fin. & Proc. §6-211 *et seq.*

and Community Development (“DHCD”) prior to obtaining qualifying loans from enrolled financial institutions may be able to receive a 2 percent discount on loans to be applied to a project or activity located in Maryland.²⁵⁶

Lenders underwrite the requested loan according to their standard underwriting. A participating bank and the associated business may agree to any loan amount they deem appropriate, but for purposes of the LDP, the amount eligible to be “enrolled” may not exceed \$1 million dollars, or if a business has more than one loan under the Program, the total of all such loans cannot exceed \$1 million. Loans may be combined with other loan programs like Neighborhood BusinessWorks and the Maryland Capital Access Program (see below). Loan terms cannot exceed 10 years and points charged by the lender cannot exceed 1 percent of the loan amount.²⁵⁷

The LDP is operated by the Maryland State Treasurer’s Office and the DHCD. The Treasurer has flexibility to make deposits in participating financial institutions that may yield a higher interest rate than certificates of deposit. When a qualifying loan is enrolled, the Treasurer deposits an amount equal to the amount of the loan from the bank that issued the loan. The Treasurer accepts an interest rate on that deposit that is reduced commensurately. Loans enrolled in LDP are not a debt of the State nor is the State liable to any financial institution for payment of the principal or interest on a loan assisted by a linked deposit.²⁵⁸

Presently, there are only three participating lenders in the LDP: Bank Annapolis, Industrial Bank, and Columbia Bank.²⁵⁹ In fiscal years 2011 and 2012, a total of 6 loans totaling \$1,675,000 were extended under the LDP, all by Columbia Bank. During fiscal year 2013 (the most recent year for which data is available), zero loans were extended.²⁶⁰

5. Microenterprise Loan Program

The Microenterprise Loan Program (“MLP”),²⁶¹ also administered by the DHCD, expands opportunities for microenterprise development, creating new opportunities for small business development and sustaining local economies in Maryland communities. The MLP provides flexible financing for microenterprise start-ups and expansions within designated “Sustainable

²⁵⁶ Maryland Department of Housing and Community Development (2016a).

²⁵⁷ *Ibid.*

²⁵⁸ *Ibid.*

²⁵⁹ *Ibid.*

²⁶⁰ Maryland Department of Housing and Community Development (2014). This document includes an informative discussion of why so few banks participate in the LDP and steps recently taken by the General Assembly and the DHCD to increase participation in the Program.

²⁶¹ COMAR 05.13.01.03 *et seq.*

Communities”²⁶² throughout the State. The DHCD has established partnerships with community-based microlenders as intermediaries that originate and administer the microenterprise loans.²⁶³

Eligible applicants must be: Maryland-based small businesses with not more than 5 employees or non-profit organizations whose activities contribute to a broader revitalization effort; located in a commercial space; and located in a designated Sustainable Community in the State of Maryland. Applicants must also demonstrate that financing from two other lending sources is not possible. Funds obtained through MLP may be used for: working capital; marketing/planning/feasibility studies; real estate acquisition down payment; minor renovations; minor leasehold improvements; machinery and equipment; and certain other costs associated with opening or expanding a small business. Loan amounts can range from a minimum of \$1,000 to a maximum of \$500,000 or 50 percent of total project costs.²⁶⁴

6. Maryland Capital Access Program

The Maryland Capital Access Program (“MCAP”),²⁶⁵ administered by the DHCD, is part of a revitalization initiative to support the growth and success of small businesses in “Priority Funding Areas” throughout the State of Maryland.²⁶⁶ MCAP is a credit enhancement program that enables private lenders to establish a loan loss reserve fund from fees paid by lenders, borrowers, and the State of Maryland. Communities that have small businesses receiving financing through enrolled MCAP loans can benefit from new or expanded services provided by the relevant small businesses. Most Maryland small businesses, including nonprofit organizations, are eligible for this Program. Certain types of investments, including passive real estate investment and residential living facilities, are excluded from eligibility for MCAP.²⁶⁷

7. Neighborhood BusinessWorks Loan Program

The Neighborhood BusinessWorks Program (“NBW”),²⁶⁸ administered by the DHCD, provides flexible financing to small businesses and nonprofits locating or expanding in Sustainable Communities or Priority Funding Areas throughout the State. Eligible applicants include: Maryland-based small businesses, as defined by U.S. Small Business Administration size standards, and nonprofit organizations whose activities contribute to a broader revitalization effort and whose projects are intended to promote investment in commercial districts or town centers. Funds obtained through NBW may be used for: mixed use projects combining residential and commercial uses in the same building; new construction or rehabilitation;

²⁶² Priority Funding Areas are existing communities and places designated by local governments want State investment to support future growth. *See* Maryland Department of Planning (2016a) (including a map of Priority Funding Areas).

²⁶³ Maryland Department of Housing and Community Development (2016b).

²⁶⁴ COMAR 05.13.01.08.

²⁶⁵ *Ibid.* 05.13.04.00 *et seq.*

²⁶⁶ Maryland Department of Planning (2016b).

²⁶⁷ Maryland Department of Housing and Community Development (2016c).

²⁶⁸ COMAR 05.13.01.01 *et seq.*

machinery and equipment; retail; manufacturing; services; real estate acquisition; and certain other costs associated with opening or expanding a small business.²⁶⁹

8. Maryland's Prompt Payment Effort

By statute, Maryland provides prompt payment protection was only provided to subcontractors participating on State procurement contracts for construction.²⁷⁰ Maryland also has a 2008 Prompt Payment Policy Directive that applies to all non-construction State procurement contracts in excess of \$25,000 that are issued by Executive Branch.²⁷¹ Generally, where there is a prompt payment obligation under the statute or Policy Directive, a prime contractor may not withhold any undisputed amount once it receives payment from the State. The statute identifies specific remedies for non-payment of undisputed amounts.²⁷² The Policy Directive similarly provides for remedies to be included in the contract.²⁷³

9. Maryland Small Business Development Centers Network

The State, in partnership with the U.S. Small Business Administration ("SBA"), operates the Small Business Development Center ("SBDC") Network, which provides advice, consulting and support services to small businesses in Maryland. Managed by the University of Maryland, College Park, the network consists of 21 locations throughout the State where small business owners can receive comprehensive resources and relevant assistance. Each region offers a variety of training programs, market and industry research, and access to business consultants. Services include on-line courses, one-on-one counseling, financing assistance and certification assistance. The SBDC also operates several specialty programs, including a Spanish language Hispanic Business Center, and programs focusing on increasing profits and building equity, technology commercialization, managing retail or restaurant operations, and highway construction.²⁷⁴

10. Maryland Procurement Technical Assistance Center

The SBDC Network also operates the Procurement Technical Assistance Program ("PTAP"). The PTAP was authorized by Congress in 1985 with a mission to increase the number of small businesses participating in federal government contracting and procurement by providing education on the requirements of government contracting and technical assistance on obtaining and successfully performing government contracts. The program was later expanded to include assistance with state and local government contracting. The Maryland PTAP opened in 2002 with a mission to provide these education and technical assistance services to small businesses in

²⁶⁹ Maryland Department of Housing and Community Development (2016d).

²⁷⁰ Md. Code Ann., State Fin. & Proc. §15-226.

²⁷¹ Maryland Governor's Office of Minority Affairs (2016d).

²⁷² Md. Code Ann., State Fin. & Proc. §15-226.

²⁷³ Maryland Governor's Office of Minority Affairs (2016d).

²⁷⁴ Maryland Small Business Development Center (2016a).

Maryland that meet the SBA size standards.²⁷⁵ According to its 2014 Annual Report (the most recent data available), since its inception, Maryland PTAP has served almost 6,000 clients, held more than 26,000 counseling sessions, and conducted more than 700 outreach sessions. Its clients have been awarded over \$14 billion in government contracts and created over 36,000 jobs in the State.²⁷⁶

11. Maryland Technology Development Corporation

The Maryland Technology Development Corporation (“TEDCO”) was created by the Maryland General Assembly in 1988. Its mission is to facilitate the transfer and commercialization of technology from Maryland’s research universities and federal labs into the market and to assist in the creation and growth of technology-based businesses throughout the State. TEDCO’s business services include mentoring, funding, and networking for business owners attempting to bring technologies to market.²⁷⁷ In 2015, TEDCO provided grants or other funding to 108 companies and technologies, and those awardees then attracted an additional \$129 million in additional grants and other funding. In 2015 TEDCO also provided mentoring services to 200 companies in rural parts of the state, facilitated peer roundtables, provided executive support, and staged community events including its signature event, the Entrepreneurial Expo.²⁷⁸ TEDCO also operates the Maryland Entrepreneur Resource List (“MERL”), a listing of more than 100 entrepreneurs and mentors who are available to assist businesses to commercialize their technology.²⁷⁹

12. Video Lottery Fund Small, Minority, and Women-Owned Business Account

Article XIX of the Maryland Constitution authorizing gaming operations through video lottery terminals (“VLTs”) established the Small, Minority, and Women-Owned Business Account (“Account”) under the Authority of the BPW.²⁸⁰ Each VLT gaming site is required to pay 1.5 percentage of its proceeds into the Account. The BPW is required to use those funds to make grants to eligible fund managers who provide investment capital and loans to small, minority-, and women-owned businesses in the State. The BPW designated the DOC to manage the Account on its behalf.

13. Ready Set Grow

“Ready Set Grow” is a workshop series initiated by GOMA in March 2015 and designed to connect small, minority and women-owned businesses with contracting opportunities in Maryland. Through this series, GOMA helps vendors learn how to overcome barriers in the State contracting arena. The workshop typically includes information about certification in the State’s

²⁷⁵ Maryland Procurement Technical Assistance Program (2016a).

²⁷⁶ Maryland Procurement Technical Assistance Program (2016b).

²⁷⁷ Maryland Technology Development Corporation (2016a).

²⁷⁸ Maryland Technology Development Corporation (2015).

²⁷⁹ Maryland Technology Development Corporation (2016b).

²⁸⁰ Md. Code Ann., State Gov’t §9-1A-35.

MBE Program, vendor enrollment in the SBR Program, where to find procurement opportunities within 70 participating state agencies, and tips on how to navigate the procurement process. At each event, buyers from different state agencies discuss current bid opportunities and meet with business owners one-on-one during a networking session.

Ready Set Grow replaces an earlier program known as “MBE University,”²⁸¹ a conference-style training program hosted in collaboration with other public and private entities for informing stakeholders about the business opportunities and resources available to all small businesses, including MBEs, throughout the State. MBE University provided a networking opportunity for buyers and sellers to interact in a low pressure and supportive environment and was a collaborative effort between GOMA, MDOT, DOC, DGS, and the Governor's Grants Office.²⁸² It was designed to travel periodically to each region of the State to offer training and information on the tools necessary for successfully doing business with the State of Maryland.²⁸³ The final MBE University was co-hosted by GOMA and Prince George's County in November 2014 at a full-day conference that included buyer/seller matchmaking as well as workshops on an array of small business development topics.²⁸⁴

14. Additional Outreach to Small Firms and MBEs

The majority of State of Maryland solicitations over \$15,000 are advertised on *eMaryland Marketplace*, the State's internet-based procurement system.²⁸⁵ Additionally, State agencies are encouraged to send notices of procurement opportunities to minority- and female-oriented media and contractor associations.²⁸⁶ Some agencies waive fees for sending copies of bid specifications to such organizations. Because of prohibitive costs, MDOT generally only sends bid packages upon request, but some solicitation packages are uploaded to *eMaryland Marketplace* or the State Highway Administration's website. DGS, USM, and DPSCS each maintain a bidders list that includes MBEs to whom solicitations are routinely mailed. Generally, agencies rely on the MDOT Directory to identify certified MBEs and on GOMA to help identify minority- and female-oriented contractor associations that could be notified.

Various State agencies, including MDOT and GOMA, sponsor or promote periodic workshops, trainings, conferences, and other professional development and networking events for small businesses and MBEs. Both the Office of MBE and GOMA maintain online calendars of these events.²⁸⁷

²⁸¹ MBE University is not a post-secondary educational program or course.

²⁸² Maryland Governor's Office of Minority Affairs (2016b); Maryland Department of Transportation (2010).

²⁸³ Maryland Governor's Office of Minority Affairs (2010).

²⁸⁴ Prince George's County Government [Maryland] (2014).

²⁸⁵ COMAR 21.05.02.04, 21.05.07.06.B.4; Maryland Department of General Services (2016b).

²⁸⁶ Maryland Department of Transportation (2016b). *See also* <http://goma.maryland.gov/Pages/events.aspx>.

²⁸⁷ Maryland Department of Transportation (2016b); Maryland Governor's Office of Minority Affairs (2016b).

Both GOMA and MDOT maintain special hotlines so that individuals can report suspected cases of fraud or other abuses related to the MBE or DBE programs.²⁸⁸

Additionally, both GOMA and MDOT maintain online listings of resources for MBEs and other small businesses, including links to financial and lending resources, state and national business resources, professional associations and organizations, professional and technical assistance programs, and certification assistance.²⁸⁹

D. Business Owner Feedback Interviews

To gather anecdotal evidence of the effectiveness of the current State of Maryland MBE program and procedures for leveling the playing field and opening up opportunities for M/WBEs on public contracts, we met with almost 200 business owners or representatives from a cross section of the industries from which the State procures goods and services, as well as 31 State MBE Liaisons, senior procurement officers, and GOMA personnel.

The following are summaries of the issues discussed. Quotations are indented, and are intended to represent the views expressed by multiple participants.

1. Significance of the State of Maryland's MBE Program

In summary, almost all M/WBEs firms reported that being certified provided opportunities that otherwise would not have presented themselves. The MBE Program was seen as critical to allowing M/WBE businesses access to the business opportunities with the State of Maryland.

I believe the MBE, the DBE, the SBE programs help to level the playing field so that we can get into some of these larger projects.

They've got the MBE program and they've got the SBR Program. Both very good programs and if both of those programs didn't exist, we would not be here...today with our company.

If Maryland hadn't had the MBE program, I would not be sitting where I'm today. I am a big cheerleader for the program.

Some firms had a contrary view of the State's M/WBE program and its effectiveness.

²⁸⁸ Maryland Governor's Office of Minority Affairs (2016c); Maryland Department of Transportation (2016b).

²⁸⁹ Maryland Department of Transportation (2016c).

I've partnered with MBE companies in the past. And this is a story that was shared with me [by an MBE] and I find it to be so true. He said...it's like prepping on a football team and getting all ready to go and you're ready to play and you've been sitting on the sideline and you're waiting to go and your waiting to go and all of a sudden, the coach comes to you and says okay you can play right now, but you can't have a helmet or pads when you go in.

I've given up on the State, because I couldn't get any business.

2. eMaryland Marketplace

Both M/WBE and non-MWBE firms were universal in their criticism of eMaryland Marketplace and the need for a better technology solution for advertising solicitations.

We do use eMaryland Marketplace. My only thing with that is, like, today there are probably like 479 bids out there. They're not easily searchable. Like I have a bid that's out, we've been invited to bid on a college, [and] some on call emergency work. They have an amendment to that. When we click on the link, it takes you to eMarketplace... What you are forced to do is go page to page to page. You can't even search it with the bid number...It's just very cumbersome, when I think that's kind of a simple fix, it being more user friendly.

I got that one off of eMaryland Marketplace before I got it from Howard County. So this morning in my meeting with them, I said, "Are you putting the addendum on eMaryland Marketplace?" "You probably should check our website first, because we don't always put everything on...eMaryland Marketplace.

I hate eMaryland Marketplace. Hate it.

As far as eMaryland Marketplace is concerned, we don't even know how to code ourselves within the system...

It just needs to be more user friendly...but to the contractor who actually needs to use it, unless you are using it on a daily basis, it can be a real pain to navigate through.

An unexpected benefit of eMarketplace, however, is that it provides a database for private firms looking to do business with M/WBE firms.

One positive thing from a marketing perspective that happen to us is there are private companies that actually look at eMaryland Marketplace and have found us in the data base, not necessarily for State work, but they are looking to work with minority contractors and it gave us an opportunity to get an interview....

3. Certification Standards and Processes

The experience of M/WBE firms with the MDOT certification process and recertification process was mixed.

Someone came for my interview, but then I also had someone come out and inspect my warehouse and that sort of thing. But I have honestly thought the process was pretty painless. I appreciate that, them wanting to know I am a credible professional.

[C]an I say that the positive thing that I experienced this year was updating our certification. I ran around, got all the forms notarized, whatever. I uploaded everything and literally, it was like Thursday evening, by Monday morning I got thumbs up, you're certified. I was blown away.

I really felt that MDOT was a little broken because it took me a year to get my certification...it took forever.

I also think that the agency that's running the MDOT [MBE office], they need to set aside more funding to hire more people for certification. It took months upon months to get the actual certification. It was really way too long.

An issue expressed by some WBE firms regarding the certification process was excessive and unfair scrutiny received during the certification process.

They're just going to automatically discriminate against women.... I wanted to say because of the previous people...you know, these pass through companies that happened when they first started the MBE program.... We have to prove ourselves tenfold because of what the predecessors did before us. ...On one side, you want them to be stringent.... But on the other side...don't cut our throats now because of what happened before.

It was awful going through getting approved. I thought there was something wrong with me because I am a minority. I was just like what more do they want from me. And then, in the hearing, I was not treated professionally...I am a tough woman.

There was also concern with some M/WBE firms regarding the annual cycle for recertification and the submission of sensitive financial information.

I am assuming that you're DBE, your MBE application...there is a challenge in and of itself, the fact that we are literally providing a ream of paper of, quite frankly, very personal information to the State...how would, could [we] provide our [qualifications] to get our NAICS codes without providing everything except for our DNA in order to get that, because it's very time intensive to prepare those applications, even with the renewals....

4. Pre-award Processes

a. Meeting M/WBE Goals

A significant number of nonminority construction firms thought that the M/WBE goals were too high, particularly in certain regions of the State and that the availability of M/WBE firms to meet race-specific goals was limited.

Frankly, to me, the percentages need to be lowered.

[The goal] is unrealistic based upon the capacity of the contractors. It's not the number of people in the directory.

[W]e have at least one client that will not allow us to take credit for second tier contractors.

The NAICS codes give you a false sense of capacity.

Some nonminority firms thought that the contract specific goals need to more accurately reflect the subcontracting opportunities on the project.

If the goals and the subgoals have no relationship to the actual work you're actually being asked to do, there's a real problem and that's typically the case. It's like square peg, round hole.

A consistent theme in the construction focus groups with nonminority male construction contractors was that Maryland should revisit the time frame for submission of the M/WBE bid documents on bid day.

The process on bid day that's established by the State has frankly ruined the construction industry.

The fact that you are trying to have numbers and minorities and all your subcontractors selected at bid time is frankly impossible, even though we're doing it. There is no opportunity for anyone to fairly evaluate bids from any subcontractor, forget about race or gender. We're trying to figure out what in the heck price are they giving us and what does it cost and is it the proper thing. And trying to name minority companies on bid day is destructive to the industry.

I think there needs to be a delay between bid day and submitting your program. I just feel that there needs to be time to allow contractors to vet it out. Now whether it's 10 days or not, that's another issue.

A major barrier and concern that can hinder the success of M/WBE firms is getting competitive pricing from suppliers.

The problem I'm finding with some of the minority contracts is that we have to remember that State agencies are giving us the opportunity to bid on that but if ...we cannot get pricing from the suppliers that we need the products from, then we can't get ahead.

For the last ten years that I know of...they would not relinquish pricing to me. ...So pretty much, I had hit a wall. I kept going to the agency saying...do something to support this so I can continue to stay in this business.... So after no one listening, I said, okay, and I packed up my trucks and I parked them.

But what we found is that we're finding the same thing on the supplier side, that the suppliers to us will not give us the pricing that they are giving to these big people.

Some nonminority firms complained about the inconsistent application and the burden of the M/WBE program requirements.

If it's a State program, then, you know, a State form, standard form because that's the biggest thing that this office will often have seminars just to explain to their GCs how to fill out the form, because they have so many people filling out the form incorrectly...six [different] agencies, six different forms.

I need one person almost for two days, two complete days, just to do the invoicing, billing, paperwork, MBE, D4, D5s, that kind of stuff, just to track....

b. Contract Solicitations

There was significant support among the M/WBE firms to unbundle State contracts to improve the opportunities for small firms to win prime contracts.

We would prefer to prime, to be honest with you. We would like to see more small contracts come out, strictly for small businesses.

We struggle being able to prime State-funded contracts because we are specialized ... But what we find is the State bundles a lot of projects into one package, and so then you are looking at a \$5 million contract that a small business can't necessarily bond.

Several M/WBEs expressed concerns that the restrictive experience requirements create a barrier to M/WBE firms competing for opportunities.

Each and every one of these entities that I have subsequent contracts, I had to go there and make my presence known, or I'll submit an RFP, and it has to stand on its own. But they do ask you in the RFP process, please give me three or five other references from State agencies that you have worked and done the same type of work.

And what my issue is, is that it's hard to break into the marketplace, if you will, because of past performance, the lack of, [for] a new company.

Several M/WBEs recounted negative experiences with the State in the solicitation process.

[W]e worked for two and a half years developing the relationship. We got to everybody except the guy who put the RFP out. ...I actually went to an event so I could see him in person. I walked up to him and said hey, just wanted to put a face with a name, wanted to introduce myself, gave him a card. He looked at me like I was from Mars, and then, he thought about it, he took the card, and then he walked away from me.

They give you the spec, you have to read the spec and read through each line and to try to interpret what it is they want you to do. But the problem that I have is when you call up a contracting officer, they are so lacking in knowledge of what they're putting out that you actually have to teach them.

There was uniform agreement among M/WBE firms that the State should review the procurement process and streamline the decision making process.

The archaic nature of the Maryland procurement system is such that there's no fairness in the process. ...[T]here's no review, there's no definition given of how the selection

committee was even formed.... And so a decision is made by one person as to who the solicitation goes to....

Restructure the --- to have more accountability of the people that are putting contracts out. The people that are putting these contracts [out] are not qualified to do it. They're not...trained, they don't follow up, they don't answer—call down there; try to get a phone call answered.

You got a bureaucracy of people; they don't know what they're procuring. The contracts are absolutely insanely written such as my business dealing with Iran, blood diamond traffic, then I get this mercury compliant form... That's insane. Why ask me that?

Both M/WBEs and Non-M/WBEs professional service firms complained about the long delays from submission of a proposal to award.

I know we have been on teams where proposals initially went in as late as 2013 that are still open, haven't been awarded yet. So it's very difficult to plan staffing when you are budgeting three years per contract award.

[W]hen you take that long to make [a] decision, like you're submitting something in 2013, that's when the letter went in, and then your technical proposal is due in 2016, the longer that gap in time, the more likely there are changes in your company.

The timelines are so long from the point the proposal comes out until it's awarded. [T]hey will ask key personnel to be submitted with the proposal. ... We cannot substitute any personnel until 30 days after award. ... We submitted our proposal [in] December. We have yet to hear back about the award. Holding onto four key personnel as a small business ...this really narrows the proposals that we can go after....

5. Contract Performance

a. Monitoring

Many M/WBE firms commented that the State's monitoring of contract payments during the term of the contract had improved.

I have to submit a form stating which contractor paid me, how much they paid me on each job. What I have as a minority...noticed this year more than any other year that they are really keeping track and following up on it. There was a payment that was applied to

the wrong job in my office, and *** called and said that this doesn't make sense because we don't have that the prime contractor made a payment on this. It was fixed and everything was fine, but I was like wow, we've been filling out these papers for thirty years.

I think it's gotten better over time, ... because before we submitted and it just kind of goes in a black hole. But if you don't submit, then somebody actually does follow-up. But the point is, it is in some timely fashion.

I have found that when I'm not paid by the prime and I'm looking for the money, I can call the State and say [I am] the minority contractor on this job, I haven't been paid, have they been paid, and they will work with you. But you have to ask.

I'd say again, *** is maybe the most organized...and aggressive. And they'll come out and do audits and, you know, sit down and look at the paperwork and say, "Hey, you fell short, and you said you were going to meet this goal, and it looks like your paperwork showed that you fell 3 percent on this guy...What happened?"

Some firms expressed their view that the State's monitoring and compliance efforts were weak and ineffective.

[A]t the end of the job they sent me a blank form with no contract number, no amount, no job locations, no nothing and said can you sign this for us? I said absolutely not... but when they did fill it out, at least, I signed it and sent it back. ...A few months later, I get a call from the MBE liaison...He said I just want to make sure you got paid...I said we got paid and I told him what happened. I said I don't think it was done fairly and properly...and would you like me to send you a copy. [He said,] No, no, that's okay.... Because he doesn't want to open that can of worms.

I've had several State contracts, for example, where I had to send in a monthly D-5 form to certify that I was paid on time. Then I've had other contracts, the contract was for millions of dollars, and I have yet to send in. So it's irregular. No one following up to see that I was paid. So what kind of compliance are they tracking? So it has to be consistent on the State's side.

I mean, in the State's defense, I guess what they would say is that they really don't have the staff to monitor and go behind every contract and see if everything is legit and straight up.

Some M/WBE firms expressed their view that the M/WBE liaisons must understand the procurement process in order to effectively monitor M/WBE participation.

[I]f the MBE liaison doesn't have the expertise in understanding the difference...doesn't understand what an indefinite delivery contract is and have task orders associated with it, then that person [or] then hiring a person without having that understanding of the government procurement process automatically then discriminates against minority businesses who come in who need to know how to navigate the process.

b. Payment

In general, both M/WBEs and non-M/WBEs recognized the importance of receiving timely payments and the negative impact not getting paid had upon their ability to be successful on State projects.

I work with a sub, minority or not, to keep him moving, to pay his materials, even though I haven't been paid, because on the next bid, I'm going to get maybe a better price than my competitor, because he knows I'll pay him or help get his materials.

Sometimes when the sub is doing certain work, and they send an invoice in, and if the prime hadn't had to participate in that, they're not in a whole lot of hurry to get their portion, the invoices, so that your payments get delayed, not because you didn't hand in your invoice properly, but the prime didn't submit, because that's the only person that's submitting an invoice to the State, not the sub. It's the prime that's submitting the invoice to the State. And then so the sub ends up having to wait 30, 60, 90 days.

Many times my sub costs will be higher than my effort costs, and I don't do pay when paid. I paid my subs. That is difficult when you're 90, 120, six months out, and I'm knee deep in the hole. It creates this balance that is—it makes it hard to grow to do more State work. You literally have to become financially capable as a tiny company first.

c. Liquidated Damages²⁹⁰

There were major concerns in the M/WBEs professional service firms of the unintended consequences of the threat of liquidated damages.

²⁹⁰ See also fn. 225 and COMAR 21.11.03.10.E (requiring liquidated damages provision that applies if the contractor fails to comply in good faith with MBE requirements or contract provisions).

I think that the root of the problem...on the liquidated damage[s], it was intended to help the DBE community, but I think it's backfiring.

So my worry is if they have that liquidated damages to design contracts that they'll use engineering firms that have multiple disciplines, so maybe they could do utilities and MOT and landscape architecture versus all I do is landscape architecture.

I got particularly concerned with our last renewal documents we got through *** for our next two-year renewal. There were some new provisions that have been added to the contract which really give me pause, including things like liquidated damages.

Several nonminority contractors both in construction and professional services, also expressed their concerns regarding the liquidated damages provisions required by the State.

I personally don't like the LDs. I don't like assigning liquidated damages to a program that is supposed to have a goal. To me, if you don't meet your goal, you have a reason that you didn't meet your goal, and you shouldn't be financially impacted. ...[H]e has a flooring guy that doesn't show up and he's going to have to pay him anyway even though he didn't show up...I don't understand how that can be legal.

At the end of the day to find out if I fall a little short because there is a change in scope, or for whatever reason...we're subject to liquidated damages where we're actually paying money back to the State, it puts us in a business environment that's very antagonistic in my mind and makes a difficult situation almost untenable.

d. Small Business Reserve

Both the M/WBE and Non-M/WBE business community were supportive of expanding the Small Business Reserve Program.

But they need more SBR contracts.

[T]here should be established small business opportunities for small businesses. They can be bundled for small businesses, so you get a collection of services, but take them out of large contracts and give them to small businesses.

e. Retainage

There was a major concern among the majority of M/WBE and Non-M/WBE construction firms regarding the long delay to release retainage.

Retainage is really a challenge and I don't know if it can be dealt with...to tell you the truth because it doesn't seem to be a cap within reason of what the primes can hold...That money is sitting in the bank somewhere and they're getting a profit from it... But what we do as a small business is you keep telling them, respectfully, that's what I was saying not to self-destruct. Sir, is there any change on that retainage? Can we get some of that retainage back? We need it for operating costs.

They'll say we're going to hold onto it for five years. Once that five years is [over], we'll give it back to you. Some of them may say we're going to hold onto it for 10 years and once the 10 years is over, we're going to give it back.

Look we only have a 10 percent fee. So if you take a year to pay retainage, and I'm working three or four universities, you took all my profit. That's my 10 percent fee, my profit that I've added on the bid so that I can keep going. With them holding it for a year, it's killing me...

But with landscape, they hold 30 percent retainage on all my work, and then on top of that, my prime that I work with holds 5 to 10 percent retainage. That means at all times, anywhere between 35 and 40 percent of my money is sitting in either a prime's pocket or an agency's pocket. And talk about financial issues on a small MBE company.

f. Front Companies and Pass Throughs

There was uniform perception among M/WBE and non-M/WBE firms that shams and front companies continue to be a problem in the State of Maryland with the MBE program.

[W]e'll use an Asian supplier, which meets the goal but, you know—it's just a pass through. Everybody knows about how the suppliers work. *** is the only agency we work with that only recognizes the suppliers at 60 percent of whatever we give them. You know, \$100,000 to a supplier, we only get credit for \$60,000. All the other State agencies say, "Hey we don't care. Use a supplier, and we will give you full credit." That's the easiest for me...I'll buy the materials through them...it's a minority firm, but it's just a pass through.

Except he had to have MBE participation, and so he figured “MBE insurance”—and this is how some of them think: “MBE insurance, if I have them write my bond for me or my insurance for me, then I’m good.” Well he wanted us to write his bond, but his bonding was huge; it was very large and he already had somebody to do it, but he wanted to offer me some percentage of that.

What we find is a lot of husbands had a business and then the wife wants to move into the same business, yet the husband is still doing his business, so you’re going to just piggyback off what the husband—so that would not be fair to me, because if I’m competing against her, I’m really not competing against her, I’m competing against her husband who’s already in the private sector.

So when you bring these fraud complaints to the State, the State doesn’t do anything about it. They just let it go.

Every contractor in the State, I guarantee you, uses suppliers to meet MBE goals.... And most of these suppliers don’t touch a piece of equipment. They process paper. It’s a pure pass through. It’s a shame. We all know it happens.

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IX. Suggested Best Practices for Race- and Gender-Conscious Programs

As detailed above, we conducted a thorough examination of the evidence regarding the experiences of minority- and women-owned firms in Maryland's geographic and procurement market area. To meet strict scrutiny, we have analyzed evidence of such firms' utilization by the State on its prime contracts and subcontracts, as well as M/WBEs' experiences in obtaining contracts in the public sector and economy-wide. We gathered statistical and anecdotal data to provide the State with the evidence necessary to consider whether it has a compelling interest in remedying identified discrimination in its market area and, if so, how to narrowly tailor any race- and gender-based remedies adopted.²⁹¹

The State of Maryland has a mature and comprehensive MBE Program and accompanying regulations and guidance. Based upon our review of M/WBE best practices and our experience with M/WBE programs, we highlight some of the best practices applicable to the contracting process that allow for a well implemented M/WBE contracting and inclusion strategy.

A. Continuing and Augmenting Race- and Gender-Neutral Initiatives

1. Expanding Small Business Programs

Race- and gender-neutral programs are critical to fostering the inclusion of M/WBE and small business owners in the state contracting process. A question facing many jurisdictions is how to grow capacity at the prime level and shift the program objectives from a subcontracting program. A best practice to facilitate this goal is to expand the Small Business Programs (SBP and SBR).

This is recognized as a primary structured best practice approach to providing prime contracting opportunities to M/WBEs and other small firms. There are four elements that should be considered in the state's strategy of inclusion steps. First, the size standards for small business program eligibility should be reviewed to ensure that the program targets the appropriate pool of firms to maximize the program's effectiveness. States may develop small business program eligibility standards that reflect the state's small business profile. Some states have seen the need to encourage microbusiness small business programs or sheltered markets programs for emerging or start-up businesses. Other programs such as the DBE and ACDBE programs (as well as MDOT's recently implemented federal SBE program) have relied upon the SBA size standards to determine eligibility. Second, as mentioned above, the size of contracts included within the small business program could be increased. Third, the number of agencies authorized to implement small business price preferences or reserve contracts for small business competition could be expanded. Fourth, some jurisdictions have also expanded the types of contracts eligible for price preferences and small business set-asides; particularly professional services contracts, with smaller local firms, such as architecture or engineering firms.

²⁹¹ Throughout this section, the acronym "MBE" is used when referring to State of Maryland program and policy matters, while "M/WBE" is used to refer to minority-owned and/or women-owned businesses.

Finally, the impact of the small business program efforts on the business community should be measured. Both race and gender data could be collected on firms participating in the SBP and SBR programs. This would facilitate the next study of the MBE Program, which should include review of the effectiveness of the small business program in increasing the number and capacity of M/WBEs.

2. Increasing Contract “Unbundling”

Another recognized best practice is review of contracting opportunities to unbundle larger contracts to facilitate bidding by M/WBEs and small firms. Master contracts and blanket purchase order contracts as a best practice could be redefined to have smaller scopes and create more opportunity. Policies and procedures in many jurisdictions to divide state purchasing contracts into smaller work packages have been implemented as a means to increase small and diverse business participation and level the playing field. To increase opportunities for M/WBEs and other small businesses, for example, large construction contracts can also be unbundled and direct prime contracts on smaller scopes of work such as landscaping or sidewalks could be encouraged by state agencies. Under Maryland law, agencies are required to consider the severability of contracts²⁹² and prohibited from bundling contracts to limit minority business participation.²⁹³

3. Reviewing Surety Bonding, Insurance, and Experience Requirements

A recognized best practice to remove barriers and enhance the opportunity for participation in construction and professional services contracts is to review surety bonding and commercial/professional insurance requirements. The goal of the review is to ensure that the bonding and insurance requirements make sense from a business perspective and ensure that amounts are no greater than necessary to protect the state’s interests. For example, a bonding requirement of \$50,000 for a state job priced at \$25,000 may not justify the expense related to securing the bond.

At least one jurisdiction innovated its bonding program by implementing a group policy bonding program to increase the bonding capacity of M/WBEs. Other tools available to assist with bonding and insurance include “wrap up” insurance and Owner Controlled Insurance Programs to manage risk and potentially allow for more opportunities for small businesses to compete.

Similarly, the experience requirements on state contracts including professional service contracts should not create an artificial barrier that precludes qualified firms from competing for those opportunities. Experience requirements in solicitations should be reviewed to ensure that M/WBEs and other small firms are not unfairly disadvantaged and that there is adequate competition for state work. For example, a requirement of five years of previous airport terminal-specific janitorial experience in order to bid to clean an airport terminal automatically limits the field of potential competitors. Equivalent experience, such as with shopping malls, commercial

²⁹² Md Code Ann., State Fin. & Proc. §14-302(a)(3)(i).

²⁹³ Md Code Ann., State Fin. & Proc. §11-201(d)(3)(i).

buildings or other government facilities, should be permitted to increase access for small firms and guard against unfair incumbent advantages.

4. Ensuring Prompt Payments

Prompt payment is the lifeblood of any business and slow payments by the state to prime firms and by prime contractors to firms performing as subcontractors clearly create hardships for M/WBEs and other small businesses impacting their success. Many states, Maryland among them, require timely payments to subcontractors working on public contracts. Generally, most states or jurisdictions require that they pay the contractor within 30 days from approval of invoice and, similarly, require the contractor to pay the subcontractor seven to ten days from receipt of payment by the prime.

Best practices to facilitate the payment process include implementing an electronic contract tracking system, whereby contractors and subcontractors could see the status of the prime contractor's invoice. Such tracking systems should be detailed enough for a subcontractor to ascertain if its own invoice was included in the prime contractor's INVOICE FOR PAYMENT. This could help to address the complaint by subcontractors that prime contractors often withhold or delay payments without cause. It could also help avoid wasted time and energy by all subcontractors in determining the status of their invoices and whether the prime contractor has been paid.

Expedited payment programs have also been adopted for major capital projects that provide incentives for primes to pay subcontractors within seven days of receiving a subcontractor invoice. This voluntary program allows prime contractors with multi-year contracts for construction or maintenance, for example, to be paid interest on the contractor's payments to its subcontractors pending payment of the invoice or progress payment to the prime.

5. Collecting Bid Data and Pricing Information for Subcontractor Quotations

Collecting bid data on all subcontractor quotes received on larger projects is currently required under the Federal DBE regulations. The practice can potentially provide a wealth of information both for pricing of state projects and for monitoring subcontractor participation in the MBE program. The prices and scopes could then be compared to ensure that bidders are, in fact, soliciting and contracting with subcontractors on a non-discriminatory basis and whether M/WBEs are inflating quotes.

6. Utilizing Technology

The use of technology and the availability of technology have evolved tremendously with the advent of smart phones, iPads and other mobile technology devices. The use of technology can increase the visibility of business opportunities and help communicate directly with potential contractors and vendors. Utilizing technology can also provide potential cost savings for state agencies and enable the advertising of contract opportunities to a wider pool of firms.

B. Implementing Race- and Gender-Conscious Remedies

Maryland has a strong basis in evidence to implement a race- and gender-based program for contracting and procurement based upon the findings in this Study. This record establishes that minorities and women in the Maryland market area continue to experience statistically significant disparities in their access to State and private sector contracts and in those factors necessary for business success. Further, the anecdotal evidence provides vivid individual accounts of the discriminatory barriers, both overt and covert, to their full and fair participation in both State and private sector procurement and contracting expenditures. The statistical and anecdotal evidence presented in this Study is strong evidence that establishes Maryland's compelling interest in remedying race and gender discrimination. The evidence supports the conclusion that affirmative intervention is still needed to dismantle the exclusion of racial and gender groups from the private sector market. Maryland will likely be a passive participant in a discriminatory marketplace if it fails to continue to address the issue. Moreover, as found in Chapter VI, there remain large and statistically significant disparities between the availability of M/WBEs and their utilization on State contracts despite the State's aggressive current efforts. These results support the need for continued remedial action.

In adopting a new or revised MBE statute, Maryland should consider best practices implemented in other race- and gender-conscious programs to advance equity in contracting. Other race and gender conscious best practices include the following.

1. Increasing Certification Outreach

The hallmark of an exemplary MBE program is a rigorous certification process to ensure Program integrity. Outreach is a necessary and important component of a good MBE certification process in order to maximize the available pool of available M/WBEs. To facilitate an increase in the available M/WBE pool, the length of time it takes to be certified should not be unreasonable and certification documents should be as streamlined as possible. Further, state agencies and officials should continue to explain the benefits of certification to the pool of non-certified MBE firms and provide additional training to those personnel charged with certification responsibilities to avoid an inconsistent interpretation and application of the certification requirements.

2. Annual Forecast of MBE Participation for State Spending

Maryland should continue the policy, a recognized best practice, that each agency must develop an annual plan for projected M/WBE utilization to detail the anticipated procurements and the level of M/WBE participation the agency will seek to achieve. It goes without saying that the more accurate the anticipated annual procurements, the more accurate the forecast of M/WBE participation may be projected.

3. Setting Contract-Specific Goals

A best practice that directly impacts the success of the MBE Program is the goal setting process. Contract goals cannot simply be the rote application of the annual goals. Contract goals must be based upon the demonstrated availability of M/WBEs to perform the anticipated weighted scopes

of the project's prime and subcontracting opportunities, as well as the agency's progress towards meeting its overall annual goals. Given that goals are based upon both subcontracting opportunities and the available pool of M/WBE firms, if there are few or no subcontracting opportunities, no goals should be set. Realistic and achievable goals reduce contractor frustration with achieving M/WBE participation goals, reduce applications for waivers, and also reduce vendors' temptation to use brokers, who add little value to the transaction other than goal credit, or to make contractual commitments that will ultimately not be kept.

In order to uniformly set contract specific goals, the contract-by-contract goal setting process should be standardized across agencies. Collaboration with the project managers, engineers, and MBE Liaisons should be encouraged as early as possible in the goal setting process. A standard best practice is to require the MBE Liaison to sign off on all goals before the solicitation is advertised. This facilitates consideration of M/WBE issues and provides earlier opportunities to reduce contracting barriers for such firms.

Setting goals for "indefinite delivery" or "task order" contracts is often difficult because the scope of the work is not fully developed at the time of initial award. Some jurisdictions have dispensed with the requirement of M/WBE utilization plans with specific percentage or dollar values at contract award for these types of contracts. Listed M/WBEs often have no guarantee of any certain amount of work on these types of contracts and unrealistic expectations are often created by listing the firms in the utilization plans. One best practice is to set task-specific goals on each task order within the framework of an overall commitment by the prime contractor to achieve an aspirational MBE goal as the portfolio of task orders is assigned.

4. Counting MBE Prime Contractor Participation Towards Meeting Contract Goals

A best practice, adopted by Maryland, is to allow M/WBE prime firms to count their participation towards meeting a contract goal and to count those dollars towards its overall, annual goal. This approach is captured in the Federal DBE regulations, which permit a firm to count its self-performance, minus any work subcontracted to non-certified firms.²⁹⁴ This approach also requires that the M/WBE prime make good faith efforts to meet the subcontracting goal. This practice, which facilitates increased capacity among M/WBE prime contractors, could be coupled with providing incentives for M/WBE firms to pursue non-traditional contracting opportunities, which helps to avoid over-concentration of M/WBE firms in certain industry categories.

5. Counting Lower Tier M/WBE Utilization

On large projects, a best practice is to count verifiable lower tier M/WBE subcontractors toward the goal. This approach facilitates a general contractor's ability to meet the M/WBE subcontracting goals by providing more flexibility for general contractors and first tier subcontractors and potentially will provide more opportunities for smaller M/WBE firms on large projects.

²⁹⁴ See 49 C.F.R. §26.55(a)(1) ("Count the entire amount of that portion of a construction contract...that is performed by the DBE's own forces").

6. Using Control Contracts

With respect to future disparity studies, a best practice is to bid a small sample of contracts that are determined to have significant opportunities for M/WBE participation without any M/WBE goals. The designated control contracts may provide insight into whether M/WBEs are used or even solicited in the absence of contract-specific goals. The Courts have considered such unremediated markets data probative of the need to implement M/WBE goals to level the playing field for public sector contracts.

7. Reviewing Contract Award Procedures

Once goals have been set on a contract, it is critical that standards for contract award be clarified, standardized, and enforced across all agencies.

a. Scrutinizing M/WBEs' Commercially Useful Function

Another best practice is to provide extensive training to staff to make sure they clearly understand critical elements of the MBE Program such as “commercially useful function.” The Federal DBE regulations provide the standard in federal contracting and a best practice that M/WBE utilization must be carefully evaluated to determine whether the firm is serving a commercially useful function. It is uniformly recognized that a minority- or woman-owned firm can be illegally used as a “pass through” or “front” on a specific contract. Commercially useful function means responsibility for the execution of a distinct element of the work of the contract and carrying out the M/WBE’s responsibilities by actually performing, managing, and supervising the work involved, or fulfilling those responsibilities as a joint venture partner. Accordingly, a best practice is to review the proposed M/WBE subcontractor’s role on a project and confirm that the M/WBE firm’s role meets the definition of a commercially useful function. It should be noted that the setting of contract goals based upon a clear scope of work that is a defined subcontracting opportunity should reduce the incentives to claim credit for work that is not commercially useful in order to meet unrealistic or artificial goals.²⁹⁵

b. Standardizing and Disseminating Good Faith Efforts Policies and Procedures

Flexibility in the aspirational goal and the availability of waivers are essential elements to a well-designed MBE program. For a bidder who makes good faith efforts, a best practice is for that bidder to be considered by a state agency under the same standards as a bidder who has met the goals. To mandate meeting a defined goal without considering the circumstances may be considered by the Courts an impermissible race- and gender-based quota. Non-M/WBEs must be able to legitimately apply for a waiver and accurate information about the waiver standards and process should be fully disseminated. State personnel should be adequately trained on the evaluation of waivers and be empowered to grant a waiver if the circumstances justify the decision.

²⁹⁵ The Commercially Useful Function regulations for the Federal DBE Program are at 49 C.F.R. 26.55©-(d). For Maryland’s Commercially Useful Function regulations, *see* COMAR 21.11.03.12-1.

Given that construction firms take bids up to almost the literal last minute, a better practice is to provide some flexibility for those solicitations consistent with industry standards. Perhaps a very short window (*e.g.*, two hours) could be considered so that bidders can submit complete and accurate paperwork or perhaps bidders could be allowed to correct strictly clerical errors in the computation of the percentages or dollar values committed to M/WBE firms. The goal is to provide a balance between the practical realities of construction contracting and the implementation of the MBE Program's legitimate requirements.

c. Developing Standard Contractual Terms and Conditions for Program Enforcement

A best practice is to make sure that the contracting community understands that the MBE Program requirements are not optional and the contract language for the MBE Program is clear and concise. The contractual requirements for the MBE Program should be uniform across state agencies including the contract language that allows for the imposition of liquidated damages. The failure to enforce contract sanctions for default, up to and including termination, when the contractor has violated the contract terms, conditions and applicable regulations, undermines the legitimacy of the program both to the M/WBE and the non-M/WBE business communities.

8. Monitoring Contract Performance

Adequate staffing and authority to properly monitor contract compliance with the M/WBE commitments once awarded is critical. A best practice is to provide M/WBEs and other subcontractors with transparency in the contracting process and access to information about when the prime contractor received the notice to proceed, subcontractor utilization, and when progress payments have been made. Depending upon the size of the agency and available resources, many MBE Liaisons are too overwhelmed to conduct thorough ongoing compliance audits, and contract closeout is too late in the process to determine that a prime contractor has failed to utilize M/WBEs or that firms have not been paid. Some jurisdictions have relied, as a practice, upon the project management staff to augment contract monitoring. Another approach adopted by many jurisdictions is the implementation of a comprehensive data tracking and monitoring system.

A best practice is not to permit a contractor to substitute those M/WBEs listed in the original compliance documents, even with another certified firm, without prior written approval of both the project manager and the MBE Liaison. Substitutions of an M/WBE subcontractor should be permitted only under certain limited circumstances, such as the refusal by the subcontractor to honor the bid or proposal price. As a component of the program, the decision-making process for the consideration of the contractor's proposed substitution on a project should be administered in such a manner as to make the decision timely.

9. Enhancing Program Administration

As mentioned above, continued training of MBE Liaisons in procurement policies and procedures, and the intricacies of the MBE program is also a best practice that will enhance consistency in the implementation of the MBE program across agencies. Centralizing oversight of the compliance aspects of the Program with one agency, with individual staff members

responsible for a set group of agencies and for interfacing with their MBE Liaisons will also foster consistency. Because of MDOT's unique responsibility of administering both the State MBE and Federal DBE Programs, MDOT may need to continue its certification responsibilities for both the MBE and DBE Programs, as well as its oversight of compliance at the MDOT modal administrations.

10. Implementing a Mentor-Protégé Program

Mentor Protégé programs can further the development of M/WBE firms by assisting them in growing and building the capacity of their firms. Mentor Protégé programs also have the potential for assisting M/WBE firms to move into non-traditional areas of work and compete in the private market. Following the guidelines of the USDOT DBE Program²⁹⁶ and other successful initiatives, could provide an additional tool for the State to foster the development and growth of M/WBE firms. In an effort to encourage these type of relationships, contractors and consultants for construction and professional services firms have been provided incentives, including providing credit towards meeting contract goals for participation in such a program.

11. Developing Performance Measures for Program Success

Another best practice of an MBE program is to measure program performance. Achievement of the numerical M/WBE goal should not be the only measure of program success. Qualitative and quantitative performance measures for certified firms and overall Program success should be utilized in evaluating or setting benchmarks for the Program. Possible benchmarks are the achievement of business development plans similar to those used in the Small Business Administration's 8(a) Program, including revenue targets for certified firms; increased prime contracting by M/WBEs; and increased graduation rates. It is also important to know programmatic strengths and weaknesses and to track progress towards the State MBE policy goals and objectives.

12. Releasing Retainage

Another best practice is to release retainage to subcontractors prior to final completion of a project, especially longer (*i.e.* multi-year) projects. The release of retainage to subcontractors on work performed early in the project, *e.g.* site and utility lines, and partial releases of retainage as appropriate can have a significant positive impact upon the ability of M/WBEs and other small business owners to do business on construction projects with the State.

The Federal DBE rules provide an example of best practice in this regard. Recipients of federal funds (*e.g.* MDOT) are required to employ one of three methods regarding retainage: (1) do not hold retainage from prime contractors and prohibit prime contractors from holding retainage on their subcontractors; (2) do not hold retainage from prime contractors and require prime contractors to make full payment of any retainage held from a subcontractor within 30 days after satisfactory completion of the subcontractor's work; or (3) hold retainage from prime contractors, pay that retainage to prime contractors based on prompt and regular incremental

²⁹⁶ 49 C.F. R. Part 26, Appendix D, "Mentor-Protégé" Program Guidelines.

acceptances of project completion, and require prime contractors to pay all retainage owed to a subcontractor for satisfactory completion of the accepted work within 30 days after retainage is released to the prime contractor.²⁹⁷

13. Periodically Reviewing the Program

Maryland should continue its longstanding and prudent legislative requirement and best practice that the MBE Program be thoroughly reviewed every five years, and that only if there is strong evidence of continuing business discrimination should it be continued. The Program's goals and operations should also be evaluated to ensure that they remain narrowly tailored to current evidence. As has been Maryland's practice for over a decade, a sunset date for the statute providing that the Program will end unless reauthorized should be included.

²⁹⁷ 49 C.F. R. § 26.29(b).

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Appendix A. Glossary

ACS: *The American Community Survey.* The Census Bureau’s ACS is an ongoing survey covering the same type of information collected in the decennial census. The ACS is sent to more than 3.5 million addresses annually, including housing units in all counties in the 50 states and the District of Columbia.

African American: African American or “Black” refers to an individual having origins in any of the black racial groups of Africa.

American Indian: *See* Native American.

Anecdotal evidence: Qualitative data regarding business owners’ accounts of experiences with disparate treatment and other barriers to business success.

Asian: Refers to an individual having origins in the Far East, Southeast Asia or the Indian subcontinent.

Availability: A term of art in disparity studies that refers to the percentage of a given population of businesses owned by one or more groups of interest. *See also* “Utilization,” “Disparity Ratio.”

Baseline Business Universe: The underlying population of business establishments that is used in an availability analysis. It is used as the denominator in an M/WBE availability measure.

Black: Or “African American” refers to an individual having origins in any of the Black racial groups of Africa.

Capacity: This term has no single definition. *See* Chapter III for discussion of this concept and its role in disparity studies.

Constitutional significance or substantive significance: An indication of how large or small a given disparity is. Under the Equal Employment Opportunity Commission’s (“EEOC”) “four-fifths” rule, a disparity ratio is constitutionally (or substantively) significant if it is 0.8 or less on a scale of 0 to 1 or 80 or less on a scale of 1 to 100.

Decennial: Refers to the census conducted every decade by the U.S. Census Bureau. The last decennial census was conducted in 2010.

Dependent variable: In a regression analysis, a variable whose value is postulated to be influenced by one or more other “independent” or “exogenous” or “explanatory” variables. For example, in business owner earnings regressions, business owner earnings is the dependent variable, and other variables, such as industry, geographic location, or age, are the explanatory variables. *See also* “Independent variable,” “Exogenous variable.”

Disaggregation, disaggregated: Refers to the practice of splitting larger groups into smaller groups. In the present context, this term is typically used in reference to the presentation of utilization, availability, or related statistics according to industry. For example, statistics

presented for “Building Construction,” “Heavy Construction,” and “Special Trades Construction” industries are more disaggregated than statistics for the “Construction” sector as a whole.

Disparity ratio (or Disparity index): A measure derived from dividing utilization by availability and multiplying the result by 100. A disparity ratio of less than 100 indicates that utilization is less than availability. A statistically significant disparity ratio of 80 or less can be taken as evidence of disparate impact, *see* “Availability,” “Constitutional significance,” “Utilization.”

Distribution: A set of numbers and their frequency of occurrence collected from measurements over a statistical population.

Econometrics, econometrically: Econometrics is the field of economics that concerns itself with the application of statistical inference to the empirical measurement of relationships postulated by economic theory. *See also* “Regression.”

Endogenous variable: A variable that is correlated with the residual in a regression analysis or equation. Endogenous variables should not be used in statistical tests for the presence of disparities. *See also* “Exogenous variable.”

Exogenous variable: A variable that is uncorrelated with the residual in a regression analysis or equation. Exogenous variables are appropriate for use in statistical tests for the presence of disparities. *See also* “Endogenous variable,” “Independent variable,” “Dependent variable.”

First tier subcontractors: Subcontractors or suppliers hired directly by the prime contractor.

Hispanic: Refers to an individual of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

Independent variable: In a regression analysis, one or more variables that are postulated to influence or explain the value of another, “dependent” variable. For example, in business owner earnings regressions, business owner earnings is the dependent variable, and other variables, such as industry, geographic location, or age, are the independent or explanatory variables. *See also* “Dependent variable,” “Exogenous variable.”

MBE: Minority-Owned Business Enterprise. A business establishment that is 51 percent or more owned and controlled by racial or ethnic minorities (*i.e.*, African Americans, Hispanics, Asians or Native Americans).

Mean: A term of art in statistics, synonymous in this context with the arithmetic average. For example, the mean value of the series 1, 1, 2, 2, 2, 4, 5 is 2.43. This is derived by calculating the sum of all the values in the series (*i.e.*, 17) and dividing that sum by the number of elements in the series (*i.e.*, 7).

Median: A term of art in statistics, meaning the middle value of a series of numbers. For example, the median value of the series 1, 1, 2, 2, 2, 4, 5 is 2.

Microdata or micro-level data: Quantitative data rendered at the level of the individual person or business, as opposed to data rendered for groups or aggregates of individuals or businesses. For example, Dun and Bradstreet provides micro-level data on business establishments. The Census Bureau's *Survey of Business Owners*, provides grouped or aggregated data on businesses.

Misclassification: In the present context, this term refers to a situation when a listing or directory of minority-owned or women-owned firms has incorrectly classified a firm's race or gender status. For example, when a firm listed as Hispanic-owned is actually African American-owned, or when a firm listed as nonminority female-owned is actually nonminority male-owned.

MSA: Metropolitan Statistical Area. As defined by the Federal Office of Management and Budget, contains at least one urbanized area that has a total population of 50,000 or more, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.

M/WBE: Minority and/or Women-Owned Business Enterprise. A business establishment that is 51 percent or more owned and controlled by racial or ethnic minorities (*i.e.*, African Americans, Hispanics, Asians or Native Americans) or women.

NAICS: North American Industry Classification System. The standard system for classifying industry-based data in the U.S. Superseded the Standard Industrial Classification (SIC) System in 1997. *See also* "SIC."

NSSBF or SSBF: The *Survey of Small Business Finances*, formerly the *National Survey of Small Business Finances*, was produced jointly by the Federal Reserve Board and the U.S. Small Business Administration to provide a periodic statistical picture of small business finances. The SSBF was discontinued after 2003.

Native American: Refers to an individual having origins in any of the original peoples of North America, but not including individuals of Eskimo or Aleutian origin.

Nonminority: Firms that are not M/WBEs, *i.e.*, not owned by African Americans, Hispanics, Asians, Native Americans or nonminority females.

PUMS: Public Use Microdata Sample. Both the decennial census and the American Community Survey publish PUMS products.

Regression, multiple regression, multivariate regression: A type of statistical analysis which examines the correlation between two variables ("regression") or three or more variables ("multiple regression" or "multivariate regression") in a mathematical model by determining the line of best fit through a series of data points. Econometric research typically employs regression analysis. *See also* "Econometrics."

SATL: Refers to the South Atlantic census division in the NSSBF and SSBF data sets. The SATL includes the states of Maryland, Delaware, Florida, Georgia, North Carolina, South Carolina, Virginia, West Virginia and the District of Columbia.

SBO: The Census Bureau’s *Survey of Business Owners* statistical data series is devoted to capturing statistical information on the nation’s minority-owned and women-owned business enterprises. Part of the five-year *Economic Census* series.

Setaside, setasides: A contracting practice where certain contracts or classes of contracts are reserved for competitive bidding exclusively among a given subset of contractors, for example minority-owned and women-owned contractors.

SIC: Standard Industrial Classification system. Prior to 1997, the standard system for classifying industry-based data in the U.S. Superseded by the North American Industry Classification System (NAICS). *See also* “NAICS.”

Statistical significance: A statistical outcome or result that is unlikely to have occurred as the result of random chance alone. The greater the statistical significance, the smaller the probability that it resulted from random chance alone.

SSBF: *See* NSSBF.

Stratified: In the present context, this refers to a statistical practice where random samples are drawn within different categories or “strata” such as time period, industry sector, or M/WBE status.

Substantive significance or constitutional significance: An indication of how large or small a given disparity is. Under the EEOC’s “four-fifths” rule, a disparity ratio is substantively (or constitutionally) significant if it is 0.8 or less on a scale of 0 to 1.

t-test, t-statistic, t-distribution: Often employed in disparity studies to determine the statistical significance of a particular disparity statistic. A t-test is a statistical hypothesis test based on a test statistic whose sampling distribution is a t-distribution. Various t-tests, strictly speaking, are aimed at testing hypotheses about populations with normal probability distributions. However, statistical research has shown that t-tests often provide quite adequate results for non-normally distributed populations as well.

Two-tailed (or two-sided) statistical test: A “two-tailed” test means that one is testing the hypothesis that two values, say u (utilization) and a (availability), are equal against the alternate hypothesis that u is not equal to a . In contrast, a one-sided test means that you are testing the hypothesis that u and a are equal against the alternate hypothesis u is not equal to a in only one direction. That is, that it is either larger than a or smaller than a .

Utilization: A term of art in disparity studies that refers to the percentage of a given amount of contracting and/or procurement dollars that is awarded or paid to businesses owned by one or more groups of interest. *See also* “Availability,” “Disparity Ratio.”

WBE: Women-Owned Business Enterprise: A business establishment that is 51 percent or more owned and controlled by nonminority women. In this Study, unless otherwise indicated, WBE refers to nonminority women-owned firms.

Appendix B. Legal Standards for Government Race- and Gender-Conscious Contracting Programs

A. Overview of Strict Scrutiny

The applicable framework that establishes the legal standards governing race- and gender-conscious contracting programs is articulated in two seminal Supreme Court cases. In *City of Richmond v. J.A. Croson Company*²⁹⁸ and *Adarand Constructors, Inc. v. Peña*,²⁹⁹ the Supreme Court articulated that strict scrutiny would be the standard by which federal courts would review federal, state and local programs. Rather than permit generalized allegations of discrimination against minorities, the Supreme Court held that governments may adopt race-conscious programs only as a narrowly tailored remedy for a compelling interest of identified discrimination.³⁰⁰

1. Strict Scrutiny and *City of Richmond v. J.A. Croson Company*

The landmark case establishing that state and local government programs using race as a consideration must pass strict scrutiny is *Croson*. The strict scrutiny standard is comprised of two parts: (i) public entities must show a “compelling governmental interest” in establishing race-conscious programs,³⁰¹ and (ii) such programs must be “narrowly tailored” to achieve that compelling interest.³⁰² The strict scrutiny test calls for a “searching judicial inquiry into the justification,” to determine whether the classifications are truly remedial or rather “motivated by illegitimate notions of racial inferiority or simple racial politics.”³⁰³

The *Croson* Court struck down the City of Richmond’s Minority Business Enterprise Plan, which required prime contractors that were awarded city construction contracts to subcontract at least 30 percent of the project to minority-owned business enterprises (MBEs). The *Croson* Court affirmed the Court of Appeals’ ruling that the plan was unconstitutional, finding that the City of Richmond had not presented sufficient evidence to support its compelling interest in remedying discrimination.

With respect to the first prong of the strict scrutiny standard, the *Croson* Court emphasized that in order to establish a compelling interest, there must be “a strong basis in evidence” for the use

²⁹⁸ *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989). Justice O’Connor delivered the opinion of the Court in Parts I, III-B and IV. Parts II, III-A and V were plurality opinions in which Justice O’Connor was joined by Chief Justice Rehnquist, and Justice White; Chief Justice Rehnquist, Justice White, and Justice Kennedy; and Chief Justice Rehnquist, Justice White, and Justice Kennedy, respectively. Justice Scalia concurred in the judgment and Justices Marshall, Brennan and Blackmun dissented. This legal discussion will refer to the entirety of O’Connor’s decision as “*Croson*” or the “*Croson* Court”.

²⁹⁹ *Adarand Constructors, Inc. v. Pena*, 515 U.S. 200 (1995) (“*Adarand III*”).

³⁰⁰ This legal analysis is not an exhaustive discussion of all of the case law or issues related to *Croson* and its progeny, but rather highlights, with the guidance from the Fourth Circuit, the major trends and status of the case law discussing the use of race and gender conscious measures in government contracting.

³⁰¹ *Croson*, 488 U.S. at 485.

³⁰² *Id.* at 486.

³⁰³ *Id.* at 493.

of race-conscious measures.³⁰⁴ The *Croson* Court also stated that “findings of societal discrimination will not suffice” to meet the requirements of the Equal Protection Clause of the Fourteenth Amendment.³⁰⁵ The *Croson* Court opined that “[t]here was no direct evidence of race discrimination on the part of the city” or “any evidence that the City’s prime contractors had discriminated against minority-owned subcontractors.”³⁰⁶ The Supreme Court rejected all five of the predicate facts which the District Court relied on to uphold the City of Richmond’s 30 percent quota.³⁰⁷

Specifically, the *Croson* Court reasoned that the predicate facts—the City’s declaration that the ordinance was remedial, generalized assertions of past discrimination in the construction industry, the paucity of minority contractors in state and local trade associations and Congress’ findings of the effects of past discrimination—did not singly or together provide a strong basis in evidence to justify race conscious measures. Finally, the City of Richmond’s statistical evidence showed a statistical disparity between the *general population* in Richmond (which was 50 percent African American) and the awards of prime contracts to African American firms (0.67 percent of the awards). The *Croson* Court held that this was an irrelevant statistical comparison and insufficient to raise an inference of discrimination.³⁰⁸ Therefore, the City had failed to establish that it had a strong basis in evidence to support a compelling interest for its use of race-conscious measures.

However, to avoid having its holding construed to categorically eliminate all race-conscious efforts, the *Croson* Court expressly stated that:

Nothing we say today precludes a state or local entity from taking action to rectify the effects of identified discrimination within its jurisdiction. If the city of Richmond had evidence before it that nonminority contractors were systematically excluding minority businesses from subcontracting opportunities, it could take action to end the discriminatory exclusion. Where there is a significant statistical disparity between the number of qualified minority contractors willing and able to perform a particular service and the number of such contractors actually engaged by the locality or the locality’s prime contractors, an inference of discriminatory exclusion could arise.... Moreover, evidence of a pattern of individual discriminatory acts can, if supported by appropriate statistical proof, lend support to a local government’s determination that broader remedial relief is justified.³⁰⁹

In suggesting what kind of evidence would support a proper statistical comparison, Justice O’Connor stated that a more relevant statistical test would compare the number of qualified minority contractors willing and able to perform a particular service and the number of such

³⁰⁴ *Id.* at 500 (citing *Wygant v. Jackson Board of Education, et al.*, 476 U.S. 267, 277 (1986)).

³⁰⁵ *Id.* at 485 (quoting *Wygant*, 476 U.S. at 274).

³⁰⁶ *Id.* at 480.

³⁰⁷ *Id.* at 500

³⁰⁸ *Id.* at 484-485, 499-500.

³⁰⁹ *Id.* at 509.

contractors actually engaged by the locality or the locality's prime contractors. This, to the *Croson* Court, would support an inference of discrimination and thus satisfy the compelling interest requirement of the strict scrutiny test.³¹⁰

With respect to the second prong, the *Croson* Court ruled that the MBE program was not narrowly tailored to remedy discrimination, as the 30 percent quota could not be "tied to any injury suffered by anyone."³¹¹ For example, the Court pointed to the fact that the program was extended to a long list of minorities, other than African Americans, such as Hispanics, Asians, American Indians, and Eskimos and Aleuts, for which the City had not established any inference of discrimination.³¹² Finally, the Court pointed to Richmond's failure to consider race-neutral means to increase MBE participation.³¹³ In analyzing if the remedy implemented by the local or state government actor is narrowly tailored, the *Croson* Court identified several factors:

- Consideration of alternative, race-neutral means to increase M/WBE participation;³¹⁴
- The flexibility of the program requirements, including the availability of waiver provisions;³¹⁵
- The duration of the proposed relief;³¹⁶
- The relationship of numerical participation goals to the availability of M/WBEs in the relevant market;³¹⁷
- The impact of the relief on third parties;³¹⁸ and
- The overinclusiveness or underinclusiveness of the racial classifications.³¹⁹

All of the above factors should be considered when developing a race-based program to ensure that the program is sufficiently narrowly tailored under the strict scrutiny standard. Guidance from the courts relating to the above are further discussed in later sections of this Appendix.

³¹⁰ *Id.* at 509.

³¹¹ *Id.* at 507–508 (quoting *Sheet Metal Workers v. EEOC*, 478 U.S. 421, 494 (1986) (O'Connor, J. concurring in part and dissenting in part)).

³¹² *Id.* at 506.

³¹³ *Id.* at 506–507 (criticizing the City of Richmond's motive in establishing a 30 percent quota as a remedy for past discrimination and concluded that the goal of the program was racial balancing).

³¹⁴ *Id.* at 507 (citing *United States v. Paradise*, 480 U.S. 149, 171 (1987)). See also *Fullilove v. Klutznick*, 488 U.S. 448, 463–467 (1980); *Adarand III*, 515 U.S. at 237–238.

³¹⁵ *Croson*, 488 U.S. at 507–508 and *Paradise*, 480 U.S. at 171. See also *Adarand VII*, 228 F.3d at 1177, 1180–1181.

³¹⁶ *Croson*, 488 U.S. at 498, 509–510. See also *Paradise*, 480 U.S. at 171.

³¹⁷ *Croson*, 488 U.S. at 510. See also *Paradise*, 480 U.S. at 171.

³¹⁸ *Croson*, 488 U.S. at 510–511.

³¹⁹ *Croson*, 488 U.S. at 506, 509–510.

2. Intermediate Scrutiny

Since *Croson*, the U.S. Supreme Court has remained silent with respect to the appropriate standard of review for WBE programs. *Croson* was limited to the review of a race-conscious government contracting program. In other contexts, however, the Supreme Court has traditionally ruled that gender classifications are not subject to the rigorous strict scrutiny standard applied to racial classifications. Instead, gender classifications are subject to a lesser “intermediate” level of review.

Although the Supreme Court has not addressed the standard of review for gender-based contracting programs, a significant number of circuit courts of appeals have reviewed WBE programs using intermediate scrutiny, rather than the more exacting strict scrutiny standard of review.³²⁰ The Fourth Circuit applies “intermediate scrutiny” and in *H.B. Rowe Company v. Tippet* reasoned that “precedent dictates...that courts apply ‘intermediate scrutiny’ to statutes that classify on the basis of gender.”³²¹ In order to meet the burden of proof for an intermediate scrutiny standard of review, the state must show that the “classification serves important governmental objectives and that the discriminatory means employed are substantially related to the achievement of those objectives.”³²² Unlike the strong basis in evidence requirements for racial classifications, gender classifications are subject to “something less” than a strong basis in evidence.³²³

In defining what constitutes something less than a strong basis in evidence, the Fourth Circuit recently agreed that the state defending the statute must present probative evidence that the rationale for enacting a gender preference rests on evidence, *i.e.*, informed analysis and not stereotypical generalizations.³²⁴ Intermediate review requires the governmental entity to demonstrate an “important governmental objective” and a method for achieving this objective that bears a fair and substantial relation to the goal.³²⁵ The Court has also characterized the test as requiring an “exceedingly persuasive justification” for classifications based on gender.³²⁶

³²⁰ See, e.g., *H.B. Rowe Company, Inc. v. Tippet*, 615 F.3d 233 (4th Cir. 2010); *Associated Util. Contractors of Md., Inc. v. Mayor & City Council of Balt.*, 83 F.Supp.2d 613, 620 (D. Md. 2000); *W.H. Scott Construction Co., Inc. v. City of Jackson*, 199 F.3d 206, 215 n.9. (5th Cir. 1999); *Eng’g Contractors Ass’n of S. Fla., Inc. v. Metropolitan Dade Cnty.*, 122 F.3d 895 (11th Cir. 1997); *Contractors Ass’n of E. Penn. v. City of Phila.*, 91 F.3d 586 (3rd Cir. 1996); *Coral Constr. Co. v. King Cnty.*, 941 F.2d 910 (9th Cir. 1991). *But see Brunet v. City of Columbus*, 1 F.3d 390, 404 (6th Cir. 1993) (gender-based affirmative action plans subject to strict scrutiny).

³²¹ *H.B. Rowe, Inc. v. Tippet*, 615 F.3d 233, 242 (4th Cir. 2010).

³²² *Id.* at 242 (citing *Miss. Univ. for Women v. Hogan*, 458 U.S. 719, 724 (1982)).

³²³ *Rowe*, 615 F.3d at 242 (quoting *Eng’g Contractors*, 122 F.3d at 909). See also *Concrete Works of Colorado v. City and County of Denver*, 321 F.3d 950, 959-960, *cert. denied*, (10th Cir. 2003) (“*Concrete Works IV*”); *Contractors Ass’n of E. Penn. v. City of Phila.*, 6 F.3d 990 at 1010 (3rd Cir. 1993); *Coral Construction*, 941 F.2d at 931-932.

³²⁴ *Rowe*, 615 F.3d at 242.

³²⁵ *Id.*; see also *Craig v. Boren*, 429 U.S. 190, 198-99 (1976).

³²⁶ *Id.*; *Miss. Univ. for Women v. Hogan*, 458 U.S. 718 (1982); See also *Mich. Road Builders Ass’n., Inc. v. Milliken*, 834 F.2d 583 (6th Cir. 1987). *But see Brunet v. City of Columbus*, 1 F.3d 390, 404 (6th Cir. 1993) (gender-based affirmative action plans subject to strict scrutiny).

The State of Maryland, therefore, may meet the intermediate scrutiny standard for gender conscious preferences in its contracting activities if able to establish an exceedingly persuasive justification.

3. Strict Scrutiny and *Adarand III*

While *Croson*'s holding applies to challenges to state and local government programs that classify based on race, *Adarand III* extended *Croson*'s reach by holding that the strict scrutiny standard applies to federal programs using race-based classifications as well. Similar to the state and local government context, the federal government must also show a compelling interest for the use of race-conscious measures and the remedies used must be narrowly tailored to the compelling interest.

In *Adarand III*, a nonminority subcontractor that did not receive an award for the guardrail portion of a federal highway project brought an action against the Secretary of Transportation at the time, Federico Peña, alleging that the SBA 8(a) and 8(d) program preference for minorities violated the equal protection clause of the Fifth Amendment's Due Process Clause.³²⁷ The prime contractor involved in this case had a clause in its contract with the government that it would receive a monetary incentive for hiring firms controlled by "socially and economically disadvantaged individuals" for its subcontracting work.³²⁸ While the District Court ruled in favor of the federal government, and the Tenth Circuit Court of Appeals affirmed, the Supreme Court remanded the case to determine whether the challenged program met the strict scrutiny standard.

The Supreme Court noted that while *Croson* set strict scrutiny as the standard by which all race-based action by state and local governments would be analyzed, no such clear guidance was available in terms of what standard of review was required when such action was taken by the federal government. The Supreme Court ultimately concluded that strict scrutiny should also be applied to federal programs using race-conscious measures.³²⁹

In *Adarand Constructors, Inc. v. Slater*,³³⁰ a case that followed the original remand of the *Adarand III* case, the Tenth Circuit Court of Appeals noted that the compelling interest prong of strict scrutiny has already been established by Congress. Acknowledging Congress's power to address racial discrimination in the states, the Court of Appeals held that "we readily conclude that the federal government has a compelling interest in not perpetuating the effects of racial discrimination in its own distribution of federal funds and in remediating the effects of past discrimination in the government contracting markets created by its disbursements."³³¹ The Tenth Circuit Court of Appeals drew this conclusion from a portion of Justice O'Connor's opinion in *Croson*, where she stated that "[i]t is beyond dispute that any public entity, state or

³²⁷ *Adarand III*, 515 U.S. at 208-210.

³²⁸ *Id.*

³²⁹ *Id.* at 221-224, 227.

³³⁰ *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147 (10th Cir. 2000), *cert. granted*, 532 U.S. 941, *dismissed as improvidently granted*, 534 U.S. 103 (2001) ("*Adarand VI*").

³³¹ *Id.* at 1165.

federal, has a compelling interest in assuring that public dollars, drawn from the tax contributions of all citizens, do not serve to finance the evil of private prejudice.”³³²

4. Strict Scrutiny in the Fourth Circuit

The principal case in the Fourth Circuit applying the *Croson* decision is *H.B. Rowe Company v. Tippett*.³³³ H.B. Rowe challenged the constitutionality of the North Carolina General Assembly’s Statute 136-28.4 (“the Statute”), promulgated in 1983.³³⁴ The Statute set forth a general policy for the North Carolina Department of Transportation (“NCDOT”) and other state agencies to promote the use of small, minority, physically handicapped and women contractors in non-federally funded State construction projects.³³⁵ Seven years later, in 1990, the Statute was amended to include specific participation goals on State funded transportation construction contracts for minority- and women-owned businesses.³³⁶

As a result of the amendment, NCDOT created a Minority Business Enterprise and Women Business Enterprise Program (“M/WBE Program”) for non-federally funded transportation construction contracts. The *Rowe* Court noted that the program “largely mirrored” the federal DBE Program in place pursuant to the federal regulations. In 1991, the constitutionality of the Statute was challenged by a nonminority male prime contractor in federal district court. The district court ruled in favor of the plaintiff, stating that in order to implement race-conscious measures to remedy discrimination, “a governmental entity must identify with ‘some specificity’ the racial discrimination it seeks to remedy and present a ‘strong basis in evidence for its conclusion that remedial action [is] necessary.’”³³⁷ As a result of the district court decision, NCDOT suspended its M/WBE program in 1991.³³⁸

In 1993, NCDOT commissioned a disparity study of state-funded transportation construction contracts. The study determined that minority and women subcontractors were underutilized in State contracts and, as a result, the M/WBE Program was re-implemented. In 1998, the North Carolina General Assembly commissioned an update to the 1993 study. The 1998 update study concluded that minority- and women-owned businesses continued to be underutilized in State-funded transportation construction contracts.³³⁹

In 2002, H.B. Rowe’s bid, despite being the lowest, was rejected by NCDOT in favor of a firm with a slightly higher bid and substantially greater proposed M/WBE participation. NCDOT’s participation goals for the contract were 10 percent for MBEs and 5 percent for WBEs. NCDOT found that H.B. Rowe failed to meet the good faith effort requirements because the company did

³³² *Id.* at 1165 (quoting *Croson*, 488 U.S. at 492).

³³³ *H.B. Rowe Company v. Tippett*, 615 F.3d 233 (4th Cir. 2010).

³³⁴ *Id.* at 236.

³³⁵ *Id.*

³³⁶ *Id.*

³³⁷ *Id.* at 237.

³³⁸ *Rowe*, 615 F.3d at 237.

³³⁹ *Id.*

not solicit enough minority subcontractors to obtain a fair number of quotes, did not describe the available subcontracting opportunities, and proposed no strategy to meet the goal.³⁴⁰ H.B. Rowe's proposed WBE participation was 6.6 percent and their proposed MBE participation was zero.

In response, H.B. Rowe filed suit challenging the constitutionality of the Statute on its face and as applied. Subsequently, NCDOT commissioned a new disparity study that was completed in 2004. In 2006, relying on that 2004 study, the North Carolina General Assembly amended the Statute. The principal modifications were:

- Remedial action should only be taken when there is a strong basis in evidence of ongoing effects of past or present discrimination that prevents or limits disadvantaged minority- and women-owned businesses from participating as subcontractors in State-funded transportation projects.³⁴¹
- Participation goals should be aspirational rather than mandatory and shall not be applied rigidly on specific contracts or projects.³⁴²
- Goals should be set on a contract or project specific basis according to available estimates as established by the disparity study.³⁴³
- The definition of minority/women was limited to those groups that suffered discrimination.³⁴⁴
- A disparity study should be performed every five years to respond to changing conditions.³⁴⁵
- A sunset provision was included, under which the statute would expire after a set period of time.³⁴⁶

In 2008, the District Court upheld the constitutionality of the statute and H.B. Rowe appealed to the Fourth Circuit Court of Appeals. First, the Court of Appeals considered whether the statutory scheme as it relates to minorities survives the strict scrutiny standard. The Circuit Court noted that the strict scrutiny standard is not automatically "fatal in fact"³⁴⁷ and the State's

³⁴⁰ *Id.* at 237-238.

³⁴¹ *Id.* at 238.

³⁴² *Id.* at 238-239.

³⁴³ *Id.* at 239.

³⁴⁴ *Id.*

³⁴⁵ *Id.*

³⁴⁶ *Id.*

³⁴⁷ *Id.* at 241.

discrimination evidence must be evaluated on a “case by case” basis.³⁴⁸ The Circuit Court reviewed the statistical evidence detailed in the 2004 disparity study to determine if the statutory scheme was based on strong statistical evidence to implement race-conscious participation goals. The statistical evidence was also examined to determine if the Statute’s definition of minorities was overinclusive by including groups for which the 2004 disparity study did not establish sufficient evidence of discrimination.

In determining whether or not the defendant had met its evidentiary burden of a strong basis in evidence of discrimination, the *Rowe* Court began by analyzing particular minority groups that were statistically significantly underutilized on NCDOT contracts compared to their availability.³⁴⁹ The 2004 study found that the underutilization of African American-owned firms and Native American-owned firms on NCDOT contracts was statistically significant.³⁵⁰ The disparity index was statistically significant at a 95 percent confidence level for African Americans and an 85 percent confidence level for Native Americans. Although underutilized on NCDOT contracts, the study results for Hispanic- and Asian/Pacific Islander-owned firms were not statistically significant.³⁵¹ The utilization for nonminority women-owned firms on NCDOT contracts exceeded their availability in the geographic market and that difference was statistically significant.³⁵²

The *Rowe* Court applied an intermediate scrutiny standard to nonminority women-owned firms. While acknowledging that some of the evidence produced by the state was probative of discrimination, the Circuit Court concluded that the private sector evidence and the anecdotal evidence supporting discrimination against nonminority women was not sufficient to overcome the evidence of statistically significant utilization on NCDOT contracts in excess of availability. Accordingly, the Circuit Court ruled that evidence in the 2004 disparity study did not provide the “exceedingly persuasive justification” necessary to include gender-based remedies.³⁵³

Therefore, the Circuit Court ruled that the statute was facially constitutional and constitutional as applied to African American- and Native American-owned firms. However, it found that North Carolina’s application of the statute to Hispanic-, Asian- or women-owned firms was not constitutional.³⁵⁴

³⁴⁸ *Rowe*, 615 F.3d at 241. See also *Rothe Dev. Corp v. Dep’t of Def.*, 545 F.3d 1023, 1049 (Fed. Civ. 2008) (“*Rothe II*”) (quoting *W.H. Scott Constr. Co.*, 199 F.3d 206, 218, n.11 (5th Cir. 1999)).

³⁴⁹ *Id.* at 243.

³⁵⁰ *Id.* at 244.

³⁵¹ *Id.* at 245.

³⁵² *Id.*

³⁵³ *Id.* at 254-256.

³⁵⁴ *Id.* at 258.

5. Strict Scrutiny as Applied to the Disadvantaged Business Enterprise Program

In response to *Adarand III*, the U.S. Department of Transportation (“USDOT”) revised its DBE regulations in 1999 to comply with the narrow tailoring requirement of strict scrutiny.³⁵⁵ These revisions included the implementation of a personal net worth standard for DBE program eligibility and the requirement for setting race-neutral goals in conjunction with race-conscious goals.³⁵⁶

Since the 1999 revision to the DBE regulations in response to *Adarand III*, challenges to the revised regulations have arisen in several circuits—specifically in the Eighth, Ninth and Seventh Circuits. All of these circuit courts have upheld the facial validity of the DBE regulations.

The Eighth Circuit in *Sherbrooke Turf, Inc. v. Minnesota Department of Transportation* held that Congress had a “compelling interest” in enacting the DBE legislation as it had a sufficient evidentiary basis to conclude that persistent racism and discrimination in highway subcontracting warranted a race-conscious procurement program.³⁵⁷ The Eighth Circuit’s analysis also considered the Program’s application, and concluded that it was narrowly tailored on its face because the revised DBE program affords grantee States substantial discretion in setting the DBE goals.³⁵⁸ Thus, the Eighth Circuit rejected plaintiff’s claim that the revised DOT regulations did not meet strict scrutiny standards.³⁵⁹

The Seventh Circuit in *Northern Contracting, Inc. v. State of Illinois Department of Transportation*,³⁶⁰ concluded, even though not at issue, that the federal government had a compelling interest in remedying discrimination in highway construction.³⁶¹ The plaintiff argued

³⁵⁵ “Participation by Disadvantaged Business Enterprises in Department of Transportation Programs,” 64 Fed. Reg. 5096 (Feb. 2, 1999) (codified at 49 C.F.R. part 26); The Department of Transportation also revised in 2005 the rules and regulations related to participation by airport concessionaires in concession activities. See, “Participation by Disadvantaged Business Enterprises in Airport Concessions,” 70 Fed. Reg. 14496 (March 22, 2005) (codified 49 C.F.R. part 23).

³⁵⁶ Congress reauthorized the DBE program in the Transportation Equity Act for the 21st Century (“TEA-21”), Pub. L. No. 105-178, 112 Stat. 107 (1998) (codified in scattered sections of 16, 23, 49 U.S.C.); Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (“SAFETEA-LU”), Pub. L. No. 109-59, 119 Stat. 1144 (2005) (codified in scattered sections of 2, 5, 6, 15, 16, 19, 21, 23, 26, 31, 33, 42, 45, 49 U.S.C.).

³⁵⁷ *Sherbrooke Turf, Inc. v. Minn. Dep’t of Transp.*, 345 F.3d 964 (8th Cir. 2003), *cert. denied*, 541 U.S. 1041 (2004).

³⁵⁸ *Id.* at 973-974.

³⁵⁹ *Id.* at 968. The constitutionality of the Minnesota DOT’s DBE Program was upheld against an as implemented challenge. See also *Geyer Signal, et al. v. Minnesota Department of Transportation, et al.*, CA 11-321, 2014 U.S. Dist. LEXIS 43945 (D. Minn. 2014).

³⁶⁰ *Northern Contracting, Inc. v. Ill. Dep’t of Transp.*, 473 F.3d 715 (7th Cir. 2007) (affirming *Milwaukee County Pavers Ass’n v. Fiedler*, 922 F.2d 419 (7th Cir.), *cert. denied*, 500 U.S. 954 (1991)) (“*Northern Contracting*”).

³⁶¹ 473 F. 3rd 719-721. A number of Courts have followed the ruling in *Northern Contracting* that states and their agencies are entitled to adopt the federal government’s compelling interest in enacting TEA-21. *Sherbrooke Turf, Inc. v. Minnesota Dept. of Transp.*, 345 F.3d 964, 970-971 (8th Cir. 2003); *Gross Seed v. United States Department of Transportation*, 345 F.3d 964 (8th Cir. 2003) *cert. denied*. 541 U.S. 1041 (2004); *Western States*

that IDOT had to show that its DBE program was narrowly tailored to remedy specific past discrimination by the State. The Seventh Circuit did not agree, however, and stated that the program was narrowly tailored to the compelling interest identified in remediating racial and gender discrimination in the federal highway construction market. Further, the Seventh Circuit reasoned that IDOT was insulated from a constitutional challenge unless the State exceeded the federal grant of statutory authority.³⁶²

The Ninth Circuit, in *Western States Paving Co., Inc. v. Washington State Department of Transportation*,³⁶³ considered the plaintiff's request for declaratory judgment that the TEA-21 DBE preference program was unconstitutional.³⁶⁴ The court subjected the State of Washington's Department of Transportation DBE program to the strict scrutiny standard in a two part analysis, with the first part of the analysis considering whether the DBE legislation was facially constitutional, and the second part examining whether the State's application of the DBE regulations was valid. The Ninth Circuit upheld the constitutionality of the DBE statute and regulations.³⁶⁵ However, in an "as applied challenge," the court found that Washington State's application of the DBE program violated the Equal Protection Clause.

With respect to the as applied challenge to Washington State's program, the *Western States* Court looked to the utilization goal set by the State of Washington to determine whether this stated goal was unconstitutional. The Ninth Circuit Court interpreted the narrowly tailored prong of *Croson* to require that the State of Washington have independent evidence of discrimination in the State's contracting industry and the program be limited to those minority groups that have suffered discrimination.³⁶⁶ Although the State of Washington offered a statistic comparing the percentage of DBEs in the State (11.7%) to the percentage of funds awarded to them on race-neutral contracts (9.0%), the Ninth Circuit Court struck down this evidence as invalid, holding that the statistic was oversimplified and that it did not capture factors such as the capacity of the DBEs to undertake the contracted work.³⁶⁷ Unlike the Seventh Circuit in *Northern Contracting*, the Ninth Circuit in *Western States Paving* held that the State had failed to administer its program in a way that was constitutionally narrowly tailored.³⁶⁸

Paving Company, Inc. v. Washington State Dept. of Transportation, 407 F.3d 983, 997 (9th Cir. 2005), cert. denied, 546 U.S. 1170 (2006).

³⁶² *Northern Contracting*, 473 F.3d at 721. See also *GEOD Corp., et al. v. New Jersey Transit Corp.*, 746 F.Supp.2d 642, 655 (D. New Jersey 2010) (the New Jersey Transit DBE program was found constitutional because the transit authority did not exceed its federal authority). See also *Midwest Fence Corp. v. United States Department of Transportation, et al.*, 84 F.3d. 705 (N.D. Ill. 2014), *aff'd*, 2016 U.S App. LEXIS 19959 (7th Cir. November 4, 2016).

³⁶³ *W. States Paving Co., Inc. v. Wash. Dep't of Transp.*, 407 F.3d 983 (9th Cir. 2005), cert. denied, 546 U.S. 1170 (2006).

³⁶⁴ *Id.* at 987.

³⁶⁵ *Id.* at 996.

³⁶⁶ *Id.* at 998.

³⁶⁷ *Id.* at 1000.

³⁶⁸ *Id.* In light of *Western States Paving*, the USDOT published a memorandum titled "FY 2006 DBE Goal Setting Approval Process and DBE Program Plans" (December 21, 2005) to provide guidance to Recipients. Two

B. Compelling Interest

1. Burden of Proof

The party challenging the use of race-conscious measures bears the ultimate burden of proof throughout the course of the litigation—despite the government’s obligation to produce a strong factual predicate to support its program.³⁶⁹ The plaintiff must persuade the court that a program is constitutionally flawed by challenging the government’s factual predicate for the program or by demonstrating that the program lacks a proper factual predicate.³⁷⁰

Justice O’Connor explained the nature of the plaintiff’s burden of proof in her concurring opinion in *Wygant, et al. v. Jackson Board of Education, et al.*³⁷¹ She stated that, following the production of the factual predicate supporting the program:

[I]t is incumbent upon the nonminority [plaintiffs] to prove their case; they continue to bear the ultimate burden of persuading the court that the [government’s] evidence did not support an inference of prior discrimination and thus a remedial purpose, or that the plan instituted on the basis of this evidence was not sufficiently ‘narrowly tailored’.³⁷²

2. Strong Basis in Evidence

It is undisputed that remedying racial discrimination is a legitimate compelling interest for the State of Maryland.³⁷³ The procedural protocol established in contracting by *Croson* imposes an initial burden of production upon the governmental entity to demonstrate that there is a compelling governmental interest and that the challenged MBE program is supported by a strong basis in evidence, *i.e.*, documented evidence of past discrimination.³⁷⁴

In *Rowe*, the Fourth Circuit opined that a state does not have to conclusively prove past or present racial discrimination to establish a strong basis in evidence.³⁷⁵ The state may meet its burden by relying on a statistically significant disparity between the availability of qualified, willing, and able minority subcontractors and their utilization by the governmental entity or its

subsequent court opinions have followed the ruling in *Western States* that states and their agencies must have evidence of discrimination in the entity’s jurisdiction to meet the “narrowly tailored” prong. *Associated General Contractors of America, San Diego Chapter, Inc. v. California Department of Transportation, et al.*, 713 F.3d 1187, 2013 WL 1607239 (9th Cir. April 16, 2013); *Mountain West Holding Company, Inc. v. State of Montana, Montana DOT, et al.*, 2014 WL 6686734 (D. Mont. Nov. 26, 2014) appeal pending in the U.S. Court of Appeals, Ninth Circuit, Docket No. 14-36097.

³⁶⁹ *Concrete Works IV*, 321 F.3d at 959; *Coral Constr*, 941 F.2d at 921.

³⁷⁰ *GEOD Corp. v. New Jersey Transit Corp.*, 678 F.Supp. 276, 282 (D. N.J. 2009) (holding that the compelling interest prong for the DBE program is established by the federal government in enacting TEA-21).

³⁷¹ *Wygant*, 476 U.S. at 293 (1986).

³⁷² *Id.* at 293.

³⁷³ *Croson*, 488 U.S. at 500.

³⁷⁴ *Croson*, 488 U.S. at 500-503 (quoting *Wygant*, 476 U.S. at 277).

³⁷⁵ *Rowe*, 615 F.3d at 241.

prime contractors.³⁷⁶ The *Rowe* Court also required that the state corroborate the statistical evidence by “significant anecdotal evidence of racial discrimination.”³⁷⁷

The case law indicates that a disparity study may rely upon the following types of evidence to support the strong basis of evidence requirement: direct statistical evidence, anecdotal evidence, and indirect statistical evidence or “passive participation” in a discriminatory market.³⁷⁸ Each type of evidence will be briefly discussed in turn, along with additional guidance that courts have given with respect to each type of evidence.³⁷⁹

3. Statistical Evidence

The primary evidentiary requirement to show a compelling interest and allow an inference of discrimination is through statistics illustrating a disparity between the utilization of minority firms by the governmental entity and its contractors compared to the availability of minority firms. The disparity analysis results in a disparity index, or disparity ratio, that is then tested for statistical significance. However, for such statistics to be relevant, the state or local government must consider various factors, as discussed below.

Availability. In terms of defining “availability,” M/WBEs are deemed to be “available” if they are ready, willing, and able to perform. In determining the available pool of M/WBEs it is important to adopt an approach that is neither overinclusive or underinclusive of the universe of available firms. Several courts in considering the availability issue have approved using a “Custom Census” of M/WBEs and DBEs as a proper method in calculating availability. In *Northern Contracting*, the plaintiff attempted to argue that IDOT miscalculated the number of DBEs by using a custom census instead of a count of the number of DBEs registered and prequalified by IDOT. However, the Seventh Circuit upheld the broader count of DBEs that was captured by the custom census, concluding that it reflected an attempt by IDOT to arrive at more accurate numbers than what would be possible through a use of the registered vendors list.³⁸⁰

Capacity. The “able to perform” requirement of *Croson* was examined by the Tenth Circuit Court of Appeals in *Concrete Works of Colorado v. City and County of Denver (“Concrete Works IV”)*.³⁸¹ The *Concrete Works IV* court recognized that the plaintiff identified a legitimate factual dispute regarding whether the City of Denver’s percentage of M/WBE firms overstated their ability to perform. In discussing this argument, the Circuit Court recognized that M/WBE firms are generally smaller and less experienced than majority firms. This, however, was not the

³⁷⁶ *Id.* quoting *Croson*, 488 U.S. at 509

³⁷⁷ *Id.* See also *MD. Troopers Ass’n, Inc. v. Evans*, 993 F.2d 1072, 1077 (4th Cir. 1993).

³⁷⁸ *Croson*, 488 U.S. at 492.

³⁷⁹ See also Wainwright and Holt (2010), *Guidelines For Conducting A Disparity And Availability Study For The Federal DBE Program* (2010) [hereinafter “NCHRP Report”]. The NCHRP Report presents guidelines to conduct a legally defensible Disparity or Availability study for the DBE program.

³⁸⁰ *Northern Contracting*, 473 F.3d at 723.

³⁸¹ *Concrete Works IV*, 321 F.3d at 950.

end of the inquiry because the Court of Appeals also recognized that “M/WBE construction firms are generally smaller and less experienced *because* of discrimination.”³⁸²

Other courts have also recognized the elastic nature of the construction industry in which the firm’s capacity expands and contracts based upon market demand. In *Concrete Works IV*, the City of Denver offered evidence at trial indicating that three employees is the median number of employees for all construction firms in the Denver Metropolitan Statistical Area and trial testimony that the number of permanent employees is not indicative of capacity because firms can hire temporary employees and rent equipment.³⁸³ Similarly, the trial court in *North Shore Concrete and Assoc., Inc. v. City of New York*, rejected the Plaintiff’s argument that the study over stated the number of available M/WBE firms because it did not take into consideration certain criteria such as the size of the firm. The *North Shore* Court concluded that firm size was not a proper indicator of capacity in determining the pool of available firms and that a small construction firm with an owner and only one employee, a secretary, had bid on construction projects worth more than one million dollars.³⁸⁴ In *Concrete Works IV*, the Court also held that the failure to control for prior business experience, religion, or cultural variables did not undermine the business formation studies reliability.³⁸⁵

In a contrary approach to the issue of capacity, *Rothe Development Corporation v. Department of Defense*, a challenge to the Section 8(d) of the Small Business Act, the Federal Circuit Court was critical of the six studies that were relied upon by the government to establish the compelling interest prong of *Croson*.³⁸⁶ The Federal Circuit reasoned that the parameters of the studies failed to account for the relative capacity of the businesses to perform multiple construction projects.³⁸⁷ The Federal Circuit Court concluded that the “capacity” issue can be addressed by regression analysis controlling for firm size in the disparity study.³⁸⁸ However, the Tenth Circuit has held that a lack of statistical controls for factors such as education, business experience or cultural history did not undermine the disparity studies’ reliability.³⁸⁹

Geographic Markets. In order to ensure the relevance of the disparity study, the geographic market of the firms must also be taken into account. While *Croson* did not directly spell out how the geographic market is to be determined, the Ninth Circuit, in *Coral Construction Co. v. King County*, stated that “an MBE program must be limited in its geographical scope to the boundaries

³⁸² *Id.* at 981 (emphasis in original). See also “Understanding Capacity,” above in Chapter III, Section B.5, for an extended discussion of how discrimination and capacity are intertwined.

³⁸³ *Concrete Works IV*, 321 F.3d at 981.

³⁸⁴ *North Shore Concrete and Assoc., Inc. v. City of New York*, No. 94-CV-4017, 1998 WL 273027 at *25 (E.D.N.Y. April 12, 1998).

³⁸⁵ *Concrete Works IV*, 321 F.3d at 979.

³⁸⁶ *Rothe Development Corp. v. U.S. Department of Defense*, 545 F.3d 1023, 1041–1043 (Fed. Cir. 2008) (“*Rothe VII*”).

³⁸⁷ *Id.* at 1044.

³⁸⁸ *Id.*

³⁸⁹ *Concrete Works IV*, 321 F.3d at 979.

of the enacting jurisdiction.”³⁹⁰ *Croson* did not provide a bright line test for determining the local market area, thus the determination is fact-based and a governmental entity can limit the scope of evidence of discrimination to its own jurisdiction.

The recommended approach, however, is to determine the geographic market by determining where the governmental entity is spending the majority of its contracting dollars. The National Cooperative Highway Research Program (“NCHRP”) Report recommends that the relevant geographic market area encompass at least 75 percent of contract and subcontract dollars being spent by the governmental entity in a defined geographic area in order to determine the relevant geographic market, regardless of the jurisdictional boundaries of the governmental entity.³⁹¹ Although there are no cases directly on point approving a set percentage in the Fourth Circuit, the disparity study at issue in *Rowe*, like NERA’s studies, applied a 75 percent standard.³⁹²

Study Period. Additionally, it appears that the recommended study period be a minimum of three to a maximum of five to six years. The critical issue is that the study period be long enough in duration to provide a representative picture of the governmental entity’s spending profile and create a sufficiently large sample for statistical analysis. In *Contractors Association of Eastern Pennsylvania v. City of Philadelphia*,³⁹³ the Third Circuit Court reviewed a study relied upon by the City using data for three fiscal years.³⁹⁴ In *H.B. Rowe Company v. Tippett*, the Fourth Circuit also affirmed North Carolina’s program, which was supported by a disparity study using data for a five-year period.³⁹⁵

Notwithstanding the above, if the data covered by the study dates back too far, then the court may find such data to be stale. In *Builders Association of Greater Chicago v. City of Chicago*, the City of Chicago used data from 1990 to justify the compelling need to continue the race-based program in 2003. The District Court stated that “viewed through the prism of 2003” the present program could not have been considered “narrowly tailored.”³⁹⁶ This is in contrast to the District Court’s footnote in *Rothe Development Corp. v. U.S. Department of Defense*, where the District Court stated that “Congress cannot be expected to work in a vacuum” and that “Congress must have some sense of an institutional memory,” rejecting plaintiff’s objection to all evidence proffered by the Government that was prior to a certain year.³⁹⁷

³⁹⁰ *Coral Construction*, 941 F.2d at 922.

³⁹¹ NCHRP Report, *supra*, pg. 29 (courts in the 7th, 8th and 10th Circuits have upheld programs based on disparity studies using approximately 75 percent as the appropriate standard for geographic market definition).

³⁹² MGT of America, Inc. (2004), pp. 410-411.

³⁹³ *Contractors Ass’n of E. Penn.*, 91 F.3d 586 (3rd Cir. 1996).

³⁹⁴ *Id.* at 594.

³⁹⁵ *Rowe*, 615 F.3d 233 (4th Cir. 2010). The NCHRP Report (p. 34) notes that the median time period studied in most disparity and availability studies was 5 years and the average was 5.3 years. The studies produced as evidence in the *Sherbrooke* and *Northern Contracting* cases both examined a 5 year period.

³⁹⁶ *Builders Ass’n of Greater Chicago*, 298 F.Supp.2d at 742.

³⁹⁷ *Rothe Development Corp. v. U.S. Dep’t of Defense*, 324 F.Supp.2d 840, 851, n. 8 (W.D. Tex. 2004) (“*Rothe IV*”).

Non-goal contract data. Furthermore, the use of non-goal contract data can be probative in supporting a finding of discrimination. In *Northern Contracting*, the State of Illinois introduced evidence regarding five percent of IDOT contracts that did not use DBE goals. On these “zero goal” contracts, DBE firms received just 1.5 percent of the total value of the contracts. This, in conjunction with evidence relating to much higher levels of documented DBE availability and much higher levels of DBE utilization on contracts with DBE goals, led the district court to conclude that IDOT’s program met the compelling evidence standard.³⁹⁸

4. Passive Participation

A significant form of evidence that the government may present is passive participation in a discriminatory marketplace. In requiring that a state or local government show that it perpetuated the discrimination to be remedied by the M/WBE program, the *Croson* court noted that the government need not be an active participant in the discrimination. Rather, the Court stated that passive participation would suffice in satisfying the Court’s strict scrutiny standard.³⁹⁹

The difference between active and passive participation can be illustrated as follows. Evidence of active participation would be if the governmental entity actively created barriers to exclude M/WBEs from contracting opportunities. Evidence of passive participation would be the government’s infusion of tax dollars into a discriminatory industry. The *Croson* Court highlighted that a government could passively participate in private sector discrimination simply through its monetary involvement, stating “it is beyond dispute that any public entity, state or federal, has a compelling interest in assuring that public dollars, drawn from the tax contributions of all citizens, do not serve to finance the evil of private prejudice.”⁴⁰⁰

In *Concrete Works IV*,⁴⁰¹ the City of Denver relied upon marketplace data that measured discrimination in the overall Denver construction market to satisfy the *Croson* compelling interest standard. The City produced evidence at trial that it indirectly contributed to private sector discrimination by awarding public contracts to firms that discriminated against M/WBEs in their private sector work.⁴⁰² Concrete Works argued that marketplace data was irrelevant because only discrimination by the City or its prime contractors could demonstrate a strong basis in evidence.⁴⁰³ The Tenth Circuit Court of Appeals in *Concrete Works IV* rejected this argument and noted that it did not read *Croson* or the Court’s prior appellate rulings as requiring the municipality to identify an exact linkage between its award of public contracts and public discrimination.⁴⁰⁴ Rather, the *Concrete Works IV* Court sided with the City in stating that the City’s strong basis in evidence of marketplace discrimination *can* assist in its burden of

³⁹⁸ *Northern Contracting*, 473 F.3d at 719.

³⁹⁹ *Croson*, 488 U.S. at 509.

⁴⁰⁰ *Id.* at 492.

⁴⁰¹ *Concrete Works IV*, 321 F.3d at 976.

⁴⁰² *Id.*

⁴⁰³ *Id.* at 976-977.

⁴⁰⁴ *Id.* at 973. See also *Concrete Works of Colo, Inc. v. City of Denver*, 36 F.3d 1513, 1529 (10th Cir. 1994) (“*Concrete Works II*”).

establishing a compelling interest.⁴⁰⁵ The Court held that Denver’s anecdotal evidence and evidence linking its spending practices to the evidence of marketplace discrimination sufficiently illustrated that it indirectly contributed to private discrimination and was a passive participant in private discrimination.⁴⁰⁶

The District Court in *Builders Association of Greater Chicago v. City of Chicago*,⁴⁰⁷ also found evidence of the lack of M/WBE participation on private construction contracts probative. In explaining the import of marketplace discrimination, the District Court opined:

The anecdotal evidence indicates that M/WBEs are sometimes ignored because of racial, ethnic or gender animus or stereotyping. That cannot be quantified. But prime contractors, without any discriminatory intent or bias, are still likely to seek out the subcontractors with whom they have had a long and successful relationship. In a highly competitive industry, where the profit on a project, slim to begin with, can disappear because of the failure of one subcontractor to perform, why take a chance? The tendency to stick with the old and ignore the new affects all newer firms, not just M/WBEs. But here the vestiges of past discrimination linger on to skew the marketplace and adversely impact M/WBEs disproportionately as more recent entrants to the industry. Not too long ago white male firms had a near monopoly in the industry and they, therefore, are the beneficiaries of a continuing adherence to old relationships.⁴⁰⁸

The District Court affirmed that Chicago had a compelling interest not to perpetuate with tax dollars a market skewed by past discrimination that restricts M/WBE competition in the construction market.⁴⁰⁹

5. Anecdotal Evidence

Anecdotal evidence that reflects the personal experiences of individuals with discrimination in contracting opportunities is relevant because it goes to the question of whether observed statistical disparities are due to discrimination and not to some other nondiscriminatory cause or causes.⁴¹⁰ As observed by the Supreme Court, anecdotal evidence that is presented in a “pattern or practice” discrimination case may be persuasive because it “brought the cold [statistics] convincingly to life.”⁴¹¹ Testimony about discrimination by prime contractors, unions, bonding companies, suppliers and lenders has been found relevant regarding barriers both to minority firms’ business formation and to their success on governmental projects.⁴¹² While anecdotal evidence is generally insufficient standing alone, “[p]ersonal accounts of actual discrimination or

⁴⁰⁵ *Concrete Works IV*, 321 F.3d at 973 (emphasis added).

⁴⁰⁶ *Id.* at 977.

⁴⁰⁷ *Builders Ass’n of Greater Chi. v. City of Chi.*, 298 F.Supp.2d 725 (N.D. Ill. 2003).

⁴⁰⁸ *Id.* at 738.

⁴⁰⁹ *Id.* However, the court in this case nevertheless struck down the program on narrow tailoring grounds.

⁴¹⁰ *Webster v. Fulton Cnty.*, 51 F.Supp.2d 1354, 1363 (N.D. Ga. 1999).

⁴¹¹ *Int’l Bhd. of Teamsters v. United States*, 431 U.S. 324, 339 (1977).

⁴¹² *Adarand VII*, 228 F.3d at 1168-1172.

the effects of discriminatory practices may, however, vividly complement empirical evidence. Moreover, anecdotal evidence of a [government's] institutional practices that exacerbate discriminatory market conditions are [sic] often particularly probative.”⁴¹³

More recently, the Fourth Circuit found in *Rowe* that anecdotal evidence from a telephone survey, personal interviews and focus groups to be relevant and probative of whether North Carolina met its burden. A telephone survey conducted by the consultant resulted in strong evidence of discriminatory treatment of both African American and Native American firms, including evidence of: discriminatory “good old boy networks;” double standards applied to both qualifications and performance; changes in bids when not required to use minority firms; and dropping minority subcontractors after winning contracts. Focus group and interview results corroborated these findings. As the Court summarized:

The surveys in the 2004 study exposed an informal, racially exclusive network that systemically disadvantaged minority subcontractors. The State could conclude with good reason that such networks exert a chronic and pernicious influence on the marketplace that calls for remedial action.... Here, however, majorities of African American and Native American respondents agreed that prime contractors have higher standards for minority subcontractors, view minority subcontractors as being less competent than nonminority businesses, change their bidding practices when not required to hire minority subcontractors, and drop minority subcontractors after winning contracts. Together, these responses suggest strongly that the underutilization of African American and Native American subcontractors is more than a mere byproduct of misguided yet color-blind cronyism.⁴¹⁴

The *Rowe* Court specifically rejected the notion that anecdotal testimony must be “verified” or corroborated, as befits the role of evidence in legislative decision-making as opposed to judicial proceedings. The Court found that the plaintiff “offered no rationale as to why a fact finder could not rely on the State’s ‘unverified’ anecdotal data. Indeed, a fact finder could very well conclude that anecdotal evidence need not—and indeed cannot—be verified because it ‘is nothing more than a witness’ narrative told from the witness’ perspective and including the witness’ perception.”⁴¹⁵ Likewise, the Tenth Circuit held in *Concrete Works IV* that “Denver was not required to present corroborating evidence and [Plaintiff] was free to present its own witnesses to either refute the incidents described by Denver’s witnesses or to relate their own perceptions on discrimination in the Denver construction industry.”⁴¹⁶

⁴¹³ *Concrete Works II*, 36 F.3d at 1520, 1530. But cf. *Engineering Contractors*, 122 F.3d at 926: (“[W]e do not set out a categorical rule that every case must rise or fall entirely on the sufficiency of the numbers. To the contrary, anecdotal evidence might make the pivotal difference in some cases; indeed, in an exceptional case, we do not rule out the possibility that evidence not reinforced by statistical evidence, as such, will be enough”).

⁴¹⁴ *Rowe*, 615 F.3d at 251.

⁴¹⁵ *Id.* at 249 (quoting *Concrete Works IV*, 321 F.3d at 989) (citation omitted).

⁴¹⁶ *Concrete Works IV*, 321 F.3d at 989.

C. Narrow Tailoring Analysis

Croson requires that an MBE program be “narrowly tailored” to remedy current evidence of discrimination.⁴¹⁷ In *Rowe*, the Fourth Circuit applied the narrow tailoring analysis to determine if the North Carolina statutory scheme met constitutional scrutiny. The Fourth Circuit identified five factors to consider in evaluating whether the state statute is narrowly tailored:

1. The necessity of the policy and the efficacy of alternative race neutral policies;
2. The planned duration of the policy;
3. The relationship between the numerical goal and the percentage of minority group members in the relevant population;
4. The flexibility of the policy, including the provision of waivers if the goal cannot be met; and
5. The burden of the policy on innocent third parties.⁴¹⁸

After reviewing all of the factors outlined above, the *Rowe* Court found the North Carolina statutory scheme to be narrowly tailored with respect to those groups for which a compelling interest was established.⁴¹⁹

D. Conclusion

The decision of the U.S. Supreme Court in the *Croson* and *Adarand* cases established the legal landscape for affirmative action in public contracting programs. The U.S. Supreme Court altered the authority of state and local governments and the federal government to institute remedial race-conscious public contracting programs. This Study provides the statistical and anecdotal evidence to establish the strong basis in evidence predicate for the State of Maryland to continue to implement and to narrowly tailor a race- and gender-conscious public contracting program.

E. List of Authorities

Cases

Adarand Constructors, Inc. v. Federico Peña, 515 U.S. 200 (1995) (“*Adarand III*”).

Adarand Constructors, Inc. v. Slater, 228 F.3d 1147 (10th Cir., 2000), cert. granted, 532 U.S. 941, then dismissed as improvidently granted, 534 U.S. 103 (2001) (“*Adarand VI*”).

⁴¹⁷ See *Croson*, 488 U.S. at 507-508.

⁴¹⁸ *Rowe*, 615 F.3d at 252-254.

⁴¹⁹ *Id.* at 254.

Appendix B. Legal Standards for Government Race- and Gender-Conscious Contracting Programs

- Brunet v. City of Columbus*, 1 F.3d 390 (6th Cir. 1993).
- Builders Association of Greater Chicago v. City of Chicago*, 298 F.Supp.2d 725 (N.D. Ill. 2003).
- City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989).
- Concrete Works of Colorado, Inc. v. City of Denver*, 36 F.3d 1513, 1529 (10th Cir. 1994) (“*Concrete Works II*”).
- Concrete Works of Colorado v. City and County of Denver*, 321 F.3d 950, *cert. denied* (10th Cir. 2003) (“*Concrete Works IV*”).
- Contractors Association of Eastern Pennsylvania v. City of Philadelphia*, 6 F.3d 990 (3rd Cir. 1993).
- Contractors Association of Eastern Pennsylvania v. City of Philadelphia*, 91 F.3d 586 (3rd Cir. 1996).
- Coral Construction Co. v. King County*, 941 F.2d 910 (9th Cir. 1991), *cert. denied*, 112 S.Ct. 875 (1992).
- Craig v. Boren*, 429 U.S. 190 (1976).
- Engineering Contractors Association of South Florida v. Metropolitan Dade County*, 122 F.3d 895 (11th Cir. 1997).
- GEOD Corp., et al. v. New Jersey Transit Corp.*, 746 F.Supp.2d 642 (D. New Jersey 2010).
- Geyer Signal, et al. v. Minnesota Department of Transportation, et al.*, CA. 11-321.2014 U.S. Dist. LEXIS 43945 (D. Minn.2014).
- International Brotherhood of Teamsters v. United States*, 431 U.S. 324 (1977).
- Michigan Road Builders Association v. Milliken*, 834 F.2d 583 (6th Cir. 1987).
- Mississippi University for Women v. Hogan*, 458 U.S. 718 (1982).
- Midwest Fence Corp. v. United States Department of Transportation, et al.*, 84 F.3d. 705 (N.D. Ill. 2014), *aff’d*, 2016 U.S App. LEXIS 19959 (7th Cir. November 4, 2016).
- Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715 (7th Cir. 2007).
- Northern Contracting, Inc. v. Illinois Department of Transportation*, No. 00-C-4515, 2005 WL 2230195 (N.D. Ill. Sept. 8, 2005).
- North Shore Concrete and Assoc., Inc. v. City of New York*, No. 94-CV-4017, 1998 WL 273027 (E.D.N.Y. April 12, 1998).

Appendix B. Legal Standards for Government Race- and Gender-Conscious Contracting Programs

H. B. Rowe, Inc. v. Tippett, et al., 615 F.3d 233 (4th Cir. 2010).

Rothe Development Corp. v. U.S. Department of Defense, 324 F.Supp.2d 840 (W.D. Tex. 2004) (“*Rothe IV*”).

Rothe Development Corp. v. U.S. Department of Defense, 545 F.3d 1023, 1041–1043 (Fed. Cir. 2008) (“*Rothe VII*”).

Sherbrooke Turf, Inc. v. Minnesota Department of Transportation, 345 F.3d 964 (8th Cir. 2003), *cert. denied*, 124 S.Ct. 2158 (2004).

United States v. Paradise, 480 U.S. 149, 171 (1987).

W.H. Scott Construction Co., Inc. v. City of Jackson, 199 F.3d 206 (5th Cir. 1999).

Webster v. Fulton County, 51 F.Supp.2d 1354 (N.D. Ga. 1999).

Western States Paving Co., Inc. v. Washington Department of Transportation, 407 F.3d 983 (9th Cir. 2005), *cert. denied*, 546 U.S. 1170 (2006).

Wygant v. Jackson Board of Education, 476 U.S. 267 (1986).

Federal Regulations

64 Fed. Reg. 5096 (Feb. 2, 1999).

49 C.F.R. Part 23.

49 C.F.R. Part 26.

Reports

MGT of America, Inc. (2004), North Carolina Department of Transportation Second Generation Disparity Study: Final Report, Tallahassee, FL, 410-411.

Wainwright, J. and C. Holt (2010), Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program, Transportation Research Board of the National Academies, NCHRP Report, Issue No. 644.

Appendix C—State Procurement Agencies Subject to the MBE Program Statute

Office of Administrative Hearings	Department of Juvenile Services
Maryland African American Museum Corporation	Department of Labor, Licensing and Regulation
Maryland Department of Aging	Maryland State Lottery Agency
Maryland Department of Agriculture	Department of the Military
Maryland State Archives	Morgan State University
Office of the Attorney General	Department of Natural Resources
Maryland Automobile Insurance Fund	Office of the People’s Counsel
Baltimore City Community College	Department of Planning
Board of Public Works	Department of State Police
Bowie State University	Property Tax Assessment Appeals Board
Department of Budget & Management	Office of the State Prosecutor
Canal Place Preservation & Development Authority	The Public Defender System
Governor’s Office for Children	The Department of Public Safety & Correctional Services
Comptroller of Maryland	Public School Construction Program
Maryland Board of College Savings Plans	Public Service Commission
Department of Commerce	Maryland Public Broadcasting Commission
Maryland State Board of Contract Appeals	Maryland State Retirement Agency
Coppin State University	State Retirement & Pension System
Maryland Schools for the Deaf	Historic St. Mary’s City Commission
Office of the Deaf and Hard of Hearing	St. Mary’s College of Maryland
Department of Disabilities	Salisbury University
Maryland State Department of Education	The Maryland Stadium Authority
State Board of Elections	Subsequent Injury Fund
Maryland Institute for Emergency Medical Systems Services	Uninsured Employers’ Fund Board
Maryland Energy Administration	MD Teachers & State Employees Supplemental Retirement Plans
Maryland Department of the Environment	Maryland Tax Court
Maryland Environmental Service	Towson University
State of Maryland Executive Department	Maryland Department of Transportation – Maryland Aviation Administration
Maryland Food Center Authority	Maryland Department of Transportation – Motor Vehicle Administration
Frostburg State University	Maryland Department of Transportation – Office of the Secretary
Department of General Services	Maryland Department of Transportation – Maryland Port Administration
Department of Health & Mental Hygiene	Maryland Department of Transportation – State Highway Administration
Maryland Health Benefit Exchange	Maryland Department of Transportation – Maryland Transit Administration
Maryland Higher Education Commission	
Department of Housing & Community Development	
Maryland Commission on Human Relations	
Department of Human Resources	
Department of Information Technology	
Maryland Insurance Administration	

Appendix C—State Procurement Agencies Subject to the MBE Program Statute

Maryland Department of Transportation –
Maryland Transportation Authority
Maryland State Treasurer’s Office
University of Baltimore
University of Maryland, Baltimore
University System of Maryland, Baltimore
County
University System of Maryland, College
Park

University System of Maryland, Eastern
Shore
University System of Maryland, University
College
Maryland Department of Veterans Affairs
Worker’s Compensation Commission

Appendix D. Master M/WBE Directory Sources

A. Entities with lists of M/WBE firms that were duplicative of previously collected lists

African American Chamber of Commerce of Montgomery County
Anne Arundel County Economic Development Corporation
Baltimore City Public School System
Baltimore County
Baltimore County Office of Fair Practices and Community Affairs
Baltimore County Public Schools
Baltimore-Washington International Airport
Bowie State University
Carroll County
Charles County Economic Development Commission
City of Annapolis, Small and Minority Business Enterprise Development
Department of State Police
Dulles International Airport
eVA – Virginia’s eProcurement Portal
Frederick County Business Development and Retention
Frostburg State University
Governor's Commission on Asian Pacific American Affairs
Harford County
Maryland Aviation Administration
Maryland Department of Budget and Management
Maryland Department of Commerce
Maryland Department of Education
Maryland Department of General Services
Maryland Department of Human Resources
Maryland Department of Information Technology
Maryland Department of Juvenile Services
Maryland Department of Labor, Licensing & Regulation
Maryland Department of Mental Health and Hygiene
Maryland Department of Public Safety and Correctional Services
Maryland Environmental Service
Maryland Governor's Office of Minority Affairs
Maryland Interagency Commission for Public School Construction
Maryland Mass Transit Administration-Baltimore
Maryland Port Authority
Maryland Stadium Authority
Maryland State Highway
Maryland State Lottery Agency
Maryland Transit Administration
Maryland Transportation Authority
Maryland Vehicle Administration
MDOT-The Secretary's Office

Appendix D. Master M/WBE Directory Sources

Metropolitan Washington Airports Authority
Montgomery County Procurement
Morgan State University
National Association of Women in Construction (Delaware Chapter)
National Association of Women in Construction (Roanoke, VA Chapter)
Prince George's County
Queen Anne's County
Richmond International Airport
Salisbury State University
Southern Maryland Black Chamber of Commerce
St. Mary's County
Talbot County
Towson University
University of Baltimore
University of Maryland Baltimore
University of Maryland Baltimore County
University of Maryland College Park
University of Maryland Eastern Shore
University of Maryland University College
Upper Shore Workforce Investment Board
Virginia Department of Transportation
Washington County
West Virginia Small Business Development Center
Worcester County

B. Entities that had no directory, or their directory did not identify race and sex

Airport Minority Advisory Council
Baltimore County Dept. of Economic Development
Baltimore Orioles
Calvert County Minority Business Alliance
Central Vendor Registration of Montgomery County
City of Falls Church
City of Hagerstown
City of Richmond
Dorchester County
Downtown Partnership of Baltimore
Frederick County Department of Human Relations
Garrett County
Hagerstown/Washington Economic Development Commission
Jefferson County Development Authority
Maryland Minority Contractors Association, Inc.
Maryland R*STARS Database
Maryland Small Business Development Center (Western Region)
Minority Business Network

Appendix D. Master M/WBE Directory Sources

National Association of Women in Construction (National Chapter)
Naval Air Systems Command
Tri-County Council of Southern Maryland
Virginia Department of Minority Business Enterprise

C. Entities that were non-responsive to repeated contacts

American Minority Contractors & Business Association
Arlington County
Baltimore County Chamber of Commerce
Capital Region Minority Supplier Development Council
Cecil County
Charles County Minority Business Advocacy Council
DC Minority Business Enterprise Center
District of Columbia Department of Small and Local Business Development
Governor's Commission on Hispanic Affairs
Greater Baltimore Black Chamber of Commerce
Greater Baltimore Committee
Maryland Small Business Development Center (Northern Region)
Maryland-National Capital Park & Planning Commission
National Association of Women in Construction (Maryland Chapter)
National Association of Women in Construction (Greater Tidewater, VA Chapter)
National Association of Women in Construction (Washington DC Chapter)
Prince George's County Minority Business Opportunity Commission
Queen Anne's County
Somerset County
Washington Suburban Sanitary Commission
Women Construction Owners and Executives
Women Presidents' Educational Organization

D. Entities that refused to provide the requested information

Black Chamber of Commerce of Anne Arundel County
Maryland Small Business Development Center (Corridor Region)
National Association of Minority Contractors
National Center for American Indian Enterprise Development
Women's Business Enterprise National Council

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Appendix E. Detailed Utilization, Availability & Disparity Tables

This appendix presents M/WBE utilization, availability, and disparity statistics analogous to those presented in Chapter VI, Tables 6.4 and 6.5, according to detailed NAICS Industry Groups.⁴²⁰

Twelve tables each are presented. Within each set, there are two each for Construction, AE-CRS, Maintenance, IT, Services, and CSE, respectively. Within each procurement category, the first table uses dollars awarded as the metric of utilization and the second table uses dollars paid.

⁴²⁰ Comparable statistics were calculated at the NAICS Industry level as well (five-digit and six-digit NAICS). In the interest of space, these results are not reported here. Four-digit NAICS codes are most comparable to four-digit Standard Industrial Classification (SIC) codes, which were used prior to the advent of the NAICS system.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.1. Industry Group Utilization, Availability, and Disparity Results for State of Maryland Construction Contracting (Dollars Awarded)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Building Equipment Contractors (NAICS 2382)			
African American	5.09	9.14	55.66***
Hispanic	0.92	4.67	19.64****
Asian	0.27	1.52	17.88****
Native American	0.14	0.64	22.08*
Minority	6.42	15.97	40.19****
Nonminority female	2.59	12.45	20.78****
M/WBE total	9.00	28.41	31.69****
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	0.19	13.59	1.37****
Hispanic	3.96	3.09	
Asian	0.65	3.70	17.52****
Native American	0.33	0.38	86.05
Minority	5.12	20.75	24.67****
Nonminority female	4.68	11.87	39.39****
M/WBE total	9.80	32.62	30.03****
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)			
African American	7.91	7.02	
Hispanic	11.36	5.87	
Asian	4.30	1.13	
Native American	1.52	0.48	
Minority	25.10	14.50	
Nonminority female	2.72	8.91	30.57****
M/WBE total	27.82	23.41	
Nonresidential Building Construction (NAICS 2362)			
African American	3.02	12.17	24.79****
Hispanic	4.22	6.74	62.56
Asian	1.89	4.46	42.43*
Native American	0.11	2.09	5.04****
Minority	9.23	25.46	36.26****
Nonminority female	1.21	10.01	12.12****
M/WBE total	10.45	35.47	29.45****
Other Specialty Trade Contractors (NAICS 2389)			
African American	5.32	6.79	78.29
Hispanic	2.02	4.54	44.50
Asian	0.24	3.68	6.41****
Native American	0.00	2.92	0.12****
Minority	7.58	17.94	42.25****
Nonminority female	10.64	11.61	91.62
M/WBE total	18.22	29.55	61.66****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Building Finishing Contractors (NAICS 2383)			
African American	11.88	3.90	
Hispanic	5.34	12.26	43.58****
Asian	4.69	2.95	
Native American	0.05	0.17	29.45
Minority	21.96	19.28	
Nonminority female	14.54	13.32	
M/WBE total	36.50	32.59	
Architectural and Structural Metals Manufacturing (NAICS 3323)			
African American	0.12	5.93	2.10****
Hispanic	2.39	0.04	
Asian	19.96	0.23	
Native American	0.82	0.18	
Minority	23.29	6.38	
Nonminority female	7.17	14.05	51.00***
M/WBE total	30.46	20.43	
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)			
African American	17.17	5.27	
Hispanic	0.38	2.10	18.30****
Asian	20.98	1.21	
Native American	0.00	0.87	0.00****
Minority	38.53	9.45	
Nonminority female	22.37	10.56	
M/WBE total	60.90	20.01	
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)			
African American	1.64	8.55	19.24
Hispanic	23.74	0.23	
Asian	1.64	5.55	29.50
Native American	0.00	0.12	0.00
Minority	27.02	14.44	
Nonminority female	0.09	11.32	0.79****
M/WBE total	27.11	25.76	
Utility System Construction (NAICS 2371)			
African American	2.08	9.17	22.69**
Hispanic	0.56	1.81	30.76
Asian	1.10	2.38	46.22
Native American	0.05	1.14	4.19
Minority	3.79	14.50	26.12***
Nonminority female	8.61	10.38	82.94
M/WBE total	12.40	24.88	49.82

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00****
Hispanic	0.03	1.99	1.34****
Asian	0.00	3.41	0.00****
Native American	0.00	0.45	0.00****
Minority	0.03	14.61	0.18****
Nonminority female	18.03	10.28	
M/WBE total	18.05	24.89	72.53
Specialized Freight Trucking (NAICS 4842)			
African American	50.17	24.84	
Hispanic	8.68	7.48	
Asian	0.52	1.87	27.98*
Native American	2.41	0.12	
Minority	61.79	34.32	
Nonminority female	12.73	11.65	
M/WBE total	74.52	45.97	
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	2.84	6.97	40.77****
Hispanic	0.78	1.98	39.63**
Asian	5.67	4.88	
Native American	3.18	1.37	
Minority	12.48	15.20	82.08
Nonminority female	4.99	10.25	48.72****
M/WBE total	17.47	25.45	68.65****
Services to Buildings and Dwellings (NAICS 5617)			
African American	8.30	17.57	47.25****
Hispanic	0.53	3.45	15.29****
Asian	0.87	2.70	32.13**
Native American	0.01	2.24	0.26****
Minority	9.71	25.97	37.37****
Nonminority female	21.41	11.53	
M/WBE total	31.11	37.50	82.96
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)			
African American	8.65	4.86	
Hispanic	0.00	2.42	0.10****
Asian	9.24	6.60	
Native American	0.00	0.97	0.00****
Minority	17.90	14.85	
Nonminority female	19.27	9.83	
M/WBE total	37.16	24.68	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)			
African American	7.92	10.28	77.07
Hispanic	0.02	0.06	30.53
Asian	0.00	7.17	0.00****
Native American	0.00	0.04	0.00
Minority	7.94	17.55	45.27****
Nonminority female	53.74	18.00	
M/WBE total	61.68	35.55	
Cement and Concrete Product Manufacturing (NAICS 3273)			
African American	0.00	3.08	0.00****
Hispanic	14.84	1.12	
Asian	0.00	0.51	0.00****
Native American	0.00	0.07	0.00
Minority	14.84	4.78	
Nonminority female	2.60	5.75	45.24
M/WBE total	17.44	10.53	
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.34	4.38	7.85****
Hispanic	0.00	1.02	0.00****
Asian	0.00	2.19	0.01****
Native American	0.00	0.94	0.00****
Minority	0.34	8.54	4.03****
Nonminority female	37.61	8.62	
M/WBE total	37.95	17.16	
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)			
African American	23.51	1.80	
Hispanic	0.00	0.32	0.00****
Asian	0.03	2.60	1.22****
Native American	0.00	0.55	0.00****
Minority	23.54	5.27	
Nonminority female	5.01	6.67	75.15
M/WBE total	28.55	11.94	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Electric Lighting Equipment Manufacturing (NAICS 3351)			
African American	0.58	4.05	14.43****
Hispanic	0.04	0.08	55.77
Asian	0.00	0.15	0.41
Native American	0.00	4.75	0.00****
Minority	0.63	9.02	6.95****
Nonminority female	89.10	15.11	
M/WBE total	89.73	24.13	
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	0.72	5.93	12.08****
Hispanic	0.23	0.82	27.78
Asian	9.18	3.36	
Native American	0.00	0.68	0.00****
Minority	10.12	10.79	93.75
Nonminority female	19.85	15.46	
M/WBE total	29.97	26.25	
Other Support Services (NAICS 5619)			
African American	0.00	18.71	0.01****
Hispanic	6.72	2.45	
Asian	0.00	2.57	0.00****
Native American	2.81	0.02	
Minority	9.53	23.75	40.13****
Nonminority female	73.79	28.54	
M/WBE total	83.32	52.30	
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)			
African American	0.02	11.81	0.17****
Hispanic	0.00	0.23	0.00
Asian	10.62	7.83	
Native American	0.00	0.23	0.00
Minority	10.65	20.11	52.94
Nonminority female	0.15	14.79	1.02****
M/WBE total	10.80	34.89	30.94****
Investigation and Security Services (NAICS 5616)			
African American	0.78	19.84	3.91****
Hispanic	0.17	1.44	11.94
Asian	0.02	5.00	0.48****
Native American	0.00	1.16	0.00****
Minority	0.97	27.43	3.54****
Nonminority female	0.17	11.73	1.42****
M/WBE total	1.14	39.16	2.90****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)			
African American	0.02	8.83	0.21****
Hispanic	0.00	3.66	0.00****
Asian	0.00	4.95	0.00****
Native American	0.01	0.54	2.15**
Minority	0.03	17.98	0.17****
Nonminority female	42.84	16.02	
M/WBE total	42.87	34.00	
Computer Systems Design and Related Services (NAICS 5415)			
African American	0.16	16.35	0.97****
Hispanic	2.05	3.48	58.77
Asian	2.98	14.17	21.04****
Native American	0.00	1.27	0.00****
Minority	5.19	35.27	14.70****
Nonminority female	8.60	13.04	65.97
M/WBE total	13.79	48.31	28.55****
Other Miscellaneous Manufacturing (NAICS 3399)			
African American	0.41	7.16	5.68
Hispanic	0.30	1.54	19.63
Asian	0.00	1.07	0.00****
Native American	0.00	0.04	0.00
Minority	0.71	9.80	7.22
Nonminority female	38.90	27.72	
M/WBE total	39.60	37.52	
Other Wood Product Manufacturing (NAICS 3219)			
African American	0.00	1.29	0.00****
Hispanic	0.00	0.68	0.00****
Asian	0.00	0.64	0.00
Native American	0.00	0.00	0.00
Minority	0.00	2.61	0.00****
Nonminority female	0.00	3.78	0.00****
M/WBE total	0.00	6.40	0.00****
Remediation and Other Waste Management Services (NAICS 5629)			
African American	6.44	4.48	
Hispanic	0.60	6.72	8.86****
Asian	9.96	6.65	
Native American	0.07	0.01	
Minority	17.07	17.86	95.59
Nonminority female	2.05	15.51	13.20****
M/WBE total	19.12	33.36	57.29*

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Support Activities for Transportation (NAICS 4889)			
African American	0.00	30.32	0.00****
Hispanic	0.00	15.93	0.00****
Asian	0.00	7.11	0.00****
Native American	0.00	0.06	0.00
Minority	0.00	53.42	0.00****
Nonminority female	99.94	4.93	
M/WBE total	99.94	58.36	
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.30	7.14	4.15****
M/WBE total	0.30	7.14	4.15****
Other Electrical Equipment and Component Manufacturing (NAICS 3359)			
African American	0.00	12.46	0.00****
Hispanic	0.00	4.15	0.00****
Asian	0.00	5.60	0.00****
Native American	0.00	0.89	0.00****
Minority	0.00	23.10	0.00****
Nonminority female	0.00	15.77	0.00****
M/WBE total	0.00	38.87	0.00****
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)			
African American	4.56	5.77	79.14
Hispanic	0.00	3.39	0.00****
Asian	0.00	1.78	0.00****
Native American	0.00	0.29	0.00****
Minority	4.56	11.23	40.63****
Nonminority female	0.05	10.03	0.55****
M/WBE total	4.62	21.26	21.73****
Home Furnishings Stores (NAICS 4422)			
African American	15.90	0.94	
Hispanic	0.13	9.73	1.30****
Asian	0.00	7.22	0.00****
Native American	0.00	0.01	0.00
Minority	16.03	17.90	89.51
Nonminority female	22.99	10.14	
M/WBE total	39.02	28.04	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Employment Services (NAICS 5613)			
African American	23.40	9.20	
Hispanic	3.64	2.44	
Asian	0.00	3.33	0.00****
Native American	0.20	0.03	
Minority	27.24	15.00	
Nonminority female	12.51	12.27	
M/WBE total	39.75	27.27	
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	4.27	0.00****
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.02	0.00
Minority	0.00	4.29	0.00****
Nonminority female	3.23	13.28	24.35****
M/WBE total	3.23	17.57	18.41****
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)			
African American	0.00	12.67	0.00****
Hispanic	0.00	6.33	0.00****
Asian	12.42	6.33	
Native American	0.00	0.00	
Minority	12.42	25.34	49.02*
Nonminority female	0.00	12.67	0.00****
M/WBE total	12.42	38.01	32.68****
Building Material and Supplies Dealers (NAICS 4441)			
African American	0.00	3.07	0.00****
Hispanic	0.41	0.03	
Asian	0.00	2.31	0.00****
Native American	0.00	0.01	0.00
Minority	0.41	5.43	7.62****
Nonminority female	9.48	16.87	56.19*
M/WBE total	9.89	22.30	44.37****
Other Miscellaneous Store Retailers (NAICS 4539)			
African American	0.00	11.81	0.00****
Hispanic	0.00	3.65	0.00****
Asian	0.00	4.95	0.00****
Native American	0.00	0.92	0.00
Minority	0.00	21.33	0.00****
Nonminority female	0.11	17.50	0.65****
M/WBE total	0.11	38.83	0.29****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	0.51	11.11	4.63****
Hispanic	0.00	2.69	0.00****
Asian	6.27	5.28	
Native American	0.00	1.59	0.00****
Minority	6.79	20.67	32.84****
Nonminority female	20.56	19.54	
M/WBE total	27.35	40.21	68.01*
Other Fabricated Metal Product Manufacturing (NAICS 3329)			
African American	0.00	0.19	0.00
Hispanic	0.00	1.51	0.00****
Asian	0.00	2.42	0.00****
Native American	0.00	4.43	0.00****
Minority	0.00	8.55	0.00****
Nonminority female	15.98	18.69	85.50
M/WBE total	15.98	27.24	58.66
Electronics and Appliance Stores (NAICS 4431)			
African American	0.10	10.01	1.02****
Hispanic	0.00	0.31	0.00
Asian	0.00	3.00	0.00****
Native American	0.00	0.29	0.00
Minority	0.10	13.62	0.75****
Nonminority female	38.91	15.37	
M/WBE total	39.01	28.99	
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.00	3.95	0.00****
Hispanic	3.35	11.40	29.39
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	3.35	15.35	21.83
Nonminority female	26.72	20.48	
M/WBE total	30.07	35.83	83.92
Support Activities for Road Transportation (NAICS 4884)			
African American	0.53	6.71	7.96
Hispanic	0.00	9.01	0.00****
Asian	0.00	0.15	0.00
Native American	0.00	1.78	0.00****
Minority	0.53	17.65	3.03****
Nonminority female	92.48	16.46	
M/WBE total	93.02	34.11	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.04	0.00
Asian	0.00	0.83	0.00
Native American	0.00	2.27	0.00****
Minority	0.00	3.34	0.00****
Nonminority female	1.84	21.37	8.60****
M/WBE total	1.84	24.70	7.44****
Rail Transportation (NAICS 4821)			
African American	0.00	0.65	0.00
Hispanic	0.00	0.14	0.00
Asian	0.00	0.20	0.00
Native American	0.00	0.08	0.00
Minority	0.00	1.06	0.00
Nonminority female	0.00	1.69	0.00****
M/WBE total	0.00	2.74	0.00****
Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing (NAICS 3252)			
African American	0.00	6.87	0.00****
Hispanic	0.00	0.04	0.00
Asian	0.00	0.07	0.00
Native American	0.00	0.07	0.00
Minority	0.00	7.05	0.00****
Nonminority female	0.00	8.03	0.00****
M/WBE total	0.00	15.08	0.00****
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)			
African American	0.69	13.23	5.23****
Hispanic	0.24	3.63	6.58****
Asian	3.38	5.47	61.79
Native American	0.00	0.96	0.00****
Minority	4.31	23.28	18.51****
Nonminority female	19.51	17.77	
M/WBE total	23.82	41.06	58.02****
Direct Selling Establishments (NAICS 4543)			
African American	46.24	2.43	
Hispanic	0.00	0.82	0.00****
Asian	0.00	0.83	0.00****
Native American	0.00	0.01	0.00
Minority	46.24	4.08	
Nonminority female	27.49	8.60	
M/WBE total	73.73	12.68	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Railroad Rolling Stock Manufacturing (NAICS 3365)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	0.00	
M/WBE total	0.00	0.00	
Offices of Real Estate Agents and Brokers (NAICS 5312)			
African American	0.00	7.84	0.00****
Hispanic	0.00	1.56	0.00
Asian	0.00	4.25	0.00****
Native American	0.00	0.33	0.00
Minority	0.00	13.98	0.00****
Nonminority female	0.00	18.14	0.00****
M/WBE total	0.00	32.12	0.00****
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)			
African American	0.00	16.68	0.00****
Hispanic	0.00	1.35	0.00****
Asian	0.00	3.58	0.00****
Native American	0.00	0.83	0.00
Minority	0.00	22.44	0.00****
Nonminority female	25.42	17.37	
M/WBE total	25.42	39.81	63.84
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)			
African American	0.00	7.82	0.00****
Hispanic	0.00	0.81	0.00****
Asian	0.00	3.77	0.00****
Native American	0.00	0.00	
Minority	0.00	12.40	0.00****
Nonminority female	0.00	13.48	0.00****
M/WBE total	0.00	25.88	0.00****
Electric Power Generation, Transmission and Distribution (NAICS 2211)			
African American	0.00	1.22	0.00****
Hispanic	0.00	0.01	0.00
Asian	0.00	1.80	0.00****
Native American	0.00	1.11	0.00****
Minority	0.00	4.14	0.00****
Nonminority female	0.00	8.17	0.00****
M/WBE total	0.00	12.31	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Waste Collection (NAICS 5621)			
African American	18.96	23.81	79.61
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	3.14	0.00****
Minority	18.96	26.96	70.33
Nonminority female	2.72	7.25	37.49
M/WBE total	21.68	34.21	63.36
Other General Purpose Machinery Manufacturing (NAICS 3339)			
African American	13.54	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	13.54	0.00	
Nonminority female	0.31	22.22	1.38****
M/WBE total	13.85	22.22	62.32
Automotive Equipment Rental and Leasing (NAICS 5321)			
African American	0.00	2.08	0.00****
Hispanic	0.00	0.07	0.00
Asian	0.00	2.88	0.00****
Native American	0.00	0.95	0.00****
Minority	0.00	5.98	0.00****
Nonminority female	4.15	3.13	
M/WBE total	4.15	9.11	45.59
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)			
African American	0.00	11.19	0.00****
Hispanic	0.00	0.00	
Asian	0.00	1.89	0.00****
Native American	0.00	0.00	
Minority	0.00	13.07	0.00****
Nonminority female	0.00	16.24	0.00****
M/WBE total	0.00	29.31	0.00****
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)			
African American	4.77	8.56	55.76
Hispanic	0.20	0.75	26.99
Asian	0.00	1.35	0.00****
Native American	0.00	0.07	0.00
Minority	4.98	10.73	46.37
Nonminority female	21.28	14.61	
M/WBE total	26.26	25.34	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Warehousing and Storage (NAICS 4931)			
African American	0.00	10.26	0.00****
Hispanic	0.00	3.17	0.00****
Asian	0.00	4.54	0.00****
Native American	0.00	0.76	0.00****
Minority	0.00	18.73	0.00****
Nonminority female	88.86	13.91	
M/WBE total	88.86	32.64	
Furniture Stores (NAICS 4421)			
African American	0.00	3.83	0.00****
Hispanic	0.00	0.05	0.00
Asian	0.00	0.52	0.00
Native American	0.00	1.19	0.00****
Minority	0.00	5.59	0.00****
Nonminority female	10.70	14.41	74.26
M/WBE total	10.70	20.00	53.52
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)			
African American	0.00	1.09	0.00****
Hispanic	0.00	2.37	0.00****
Asian	0.00	0.01	0.00
Native American	0.00	3.14	0.00****
Minority	0.00	6.61	0.00****
Nonminority female	5.76	6.87	83.91
M/WBE total	5.76	13.48	42.75

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.2. Industry Group Utilization, Availability, and Disparity Results for State of Maryland Construction Contracting (Dollars Paid)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Building Equipment Contractors (NAICS 2382)			
African American	5.15	9.00	57.19***
Hispanic	1.00	4.60	21.82****
Asian	0.30	1.51	19.58****
Native American	0.15	0.61	24.47
Minority	6.60	15.73	41.96****
Nonminority female	2.52	12.44	20.28****
M/WBE total	9.12	28.16	32.38****
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)			
African American	7.82	6.84	
Hispanic	10.75	5.61	
Asian	4.28	1.08	
Native American	1.37	0.51	
Minority	24.22	14.04	
Nonminority female	2.86	9.02	31.75****
M/WBE total	27.09	23.07	
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	0.20	13.59	1.47****
Hispanic	2.63	3.09	85.31
Asian	0.27	3.70	7.29****
Native American	0.35	0.38	91.25
Minority	3.45	20.75	16.62****
Nonminority female	5.84	11.87	49.23****
M/WBE total	9.29	32.62	28.49****
Nonresidential Building Construction (NAICS 2362)			
African American	2.58	12.17	21.23****
Hispanic	4.89	6.74	72.56
Asian	0.30	4.46	6.69****
Native American	0.13	2.09	6.21****
Minority	7.90	25.46	31.04****
Nonminority female	1.39	10.01	13.86****
M/WBE total	9.29	35.47	26.19****
Other Specialty Trade Contractors (NAICS 2389)			
African American	3.54	6.91	51.24
Hispanic	1.85	5.44	34.04
Asian	0.14	3.80	3.56****
Native American	0.00	2.59	0.06****
Minority	5.53	18.74	29.50****
Nonminority female	7.85	11.73	66.92
M/WBE total	13.38	30.47	43.90****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Building Finishing Contractors (NAICS 2383)			
African American	10.68	3.90	
Hispanic	5.79	12.47	46.43****
Asian	4.85	2.98	
Native American	0.06	0.17	33.31
Minority	21.38	19.51	
Nonminority female	12.91	13.32	96.92
M/WBE total	34.30	32.84	
Architectural and Structural Metals Manufacturing (NAICS 3323)			
African American	0.14	5.91	2.33****
Hispanic	2.51	0.04	
Asian	21.44	0.23	
Native American	0.91	0.19	
Minority	24.99	6.37	
Nonminority female	7.21	13.98	51.59***
M/WBE total	32.20	20.34	
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)			
African American	17.10	5.22	
Hispanic	0.44	2.07	21.31****
Asian	18.60	1.22	
Native American	0.00	0.89	0.00****
Minority	36.14	9.41	
Nonminority female	22.56	10.79	
M/WBE total	58.70	20.20	
Utility System Construction (NAICS 2371)			
African American	2.32	9.17	25.28*
Hispanic	0.63	1.81	34.60
Asian	1.07	2.38	44.74
Native American	0.05	1.14	4.71
Minority	4.07	14.50	28.03**
Nonminority female	6.99	10.38	67.36
M/WBE total	11.06	24.88	44.44*
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)			
African American	1.61	8.55	18.85*
Hispanic	11.99	0.23	
Asian	0.21	5.55	3.74****
Native American	0.00	0.12	0.00
Minority	13.81	14.44	95.63
Nonminority female	0.05	11.32	0.45****
M/WBE total	13.86	25.76	53.80

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00****
Hispanic	0.04	1.99	1.84****
Asian	0.00	3.41	0.00****
Native American	0.00	0.45	0.00****
Minority	0.04	14.61	0.25****
Nonminority female	17.43	10.28	
M/WBE total	17.46	24.89	70.16
Specialized Freight Trucking (NAICS 4842)			
African American	43.43	24.84	
Hispanic	7.06	7.48	94.32
Asian	0.23	1.87	12.26****
Native American	2.32	0.12	
Minority	53.04	34.32	
Nonminority female	15.87	11.65	
M/WBE total	68.91	45.97	
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	2.78	7.05	39.51****
Hispanic	0.95	1.99	47.98
Asian	5.28	4.82	
Native American	0.46	1.34	34.79
Minority	9.48	15.19	62.45***
Nonminority female	3.98	10.39	38.27****
M/WBE total	13.46	25.58	52.63****
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)			
African American	8.52	4.96	
Hispanic	0.00	2.39	0.07****
Asian	9.21	6.76	
Native American	0.00	0.95	0.00****
Minority	17.73	15.05	
Nonminority female	19.61	9.87	
M/WBE total	37.34	24.92	
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.32	4.38	7.32****
Hispanic	0.00	1.04	0.00****
Asian	0.00	2.20	0.01****
Native American	0.00	0.94	0.00****
Minority	0.32	8.56	3.75****
Nonminority female	36.63	8.63	
M/WBE total	36.95	17.19	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)			
African American	7.51	10.28	73.06
Hispanic	0.02	0.06	37.41
Asian	0.00	7.17	0.00****
Native American	0.00	0.04	0.00
Minority	7.54	17.55	42.95****
Nonminority female	58.83	18.00	
M/WBE total	66.37	35.55	
Services to Buildings and Dwellings (NAICS 5617)			
African American	9.57	17.80	53.73****
Hispanic	0.72	3.61	20.05****
Asian	0.11	2.74	3.86****
Native American	0.01	2.20	0.37****
Minority	10.40	26.35	39.48****
Nonminority female	20.77	11.59	
M/WBE total	31.17	37.94	82.17
Cement and Concrete Product Manufacturing (NAICS 3273)			
African American	0.00	3.28	0.00****
Hispanic	12.48	1.15	
Asian	0.00	0.58	0.00****
Native American	0.00	0.08	0.00***
Minority	12.48	5.09	
Nonminority female	2.73	5.88	46.48
M/WBE total	15.21	10.97	
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)			
African American	23.63	1.82	
Hispanic	0.00	0.33	0.00****
Asian	0.03	2.60	1.28****
Native American	0.00	0.56	0.00****
Minority	23.66	5.31	
Nonminority female	5.22	6.74	77.45
M/WBE total	28.89	12.05	
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	0.77	6.00	12.90****
Hispanic	0.12	0.84	14.14****
Asian	6.34	3.56	
Native American	0.00	0.69	0.00****
Minority	7.23	11.09	65.20
Nonminority female	21.72	14.73	
M/WBE total	28.95	25.82	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Electric Lighting Equipment Manufacturing (NAICS 3351)			
African American	0.82	3.77	21.64**
Hispanic	0.06	0.07	83.63
Asian	0.00	0.14	0.62
Native American	0.00	4.91	0.00****
Minority	0.88	8.89	9.85****
Nonminority female	87.44	14.81	
M/WBE total	88.32	23.70	
Investigation and Security Services (NAICS 5616)			
African American	0.70	19.80	3.55****
Hispanic	0.19	1.41	13.73
Asian	0.03	5.10	0.53****
Native American	0.00	1.13	0.00****
Minority	0.92	27.44	3.36****
Nonminority female	0.19	11.74	1.59****
M/WBE total	1.11	39.18	2.83****
Other Support Services (NAICS 5619)			
African American	0.00	18.71	0.00****
Hispanic	5.98	2.45	
Asian	0.00	2.57	0.00****
Native American	2.21	0.02	
Minority	8.18	23.75	34.46****
Nonminority female	70.18	28.54	
M/WBE total	78.37	52.30	
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)			
African American	0.01	8.80	0.13****
Hispanic	0.00	3.65	0.00****
Asian	0.00	4.95	0.00****
Native American	0.01	0.55	2.48
Minority	0.03	17.95	0.14****
Nonminority female	39.18	16.00	
M/WBE total	39.21	33.94	
Other Wood Product Manufacturing (NAICS 3219)			
African American	0.00	1.26	0.00**
Hispanic	0.00	0.67	0.00
Asian	0.00	0.62	0.00
Native American	0.00	0.00	0.00
Minority	0.00	2.56	0.00****
Nonminority female	0.00	3.70	0.00****
M/WBE total	0.00	6.25	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)			
African American	0.04	10.59	0.34****
Hispanic	0.00	0.41	0.00
Asian	18.42	7.62	
Native American	0.00	0.40	0.00
Minority	18.46	19.02	97.06
Nonminority female	0.26	14.03	1.87****
M/WBE total	18.72	33.04	56.65****
Remediation and Other Waste Management Services (NAICS 5629)			
African American	4.66	4.49	
Hispanic	0.00	6.71	0.00****
Asian	10.71	6.63	
Native American	0.08	0.01	
Minority	15.45	17.83	86.63
Nonminority female	2.07	15.52	13.33****
M/WBE total	17.51	33.35	52.52**
Computer Systems Design and Related Services (NAICS 5415)			
African American	0.21	16.28	1.28****
Hispanic	2.44	3.51	69.54
Asian	3.65	14.25	25.61****
Native American	0.00	1.28	0.00****
Minority	6.30	35.32	17.84****
Nonminority female	11.36	13.01	87.37
M/WBE total	17.67	48.33	36.56****
Other Support Activities for Transportation (NAICS 4889)			
African American	0.00	30.32	0.00****
Hispanic	0.00	15.93	0.00****
Asian	0.00	7.11	0.00****
Native American	0.00	0.06	0.00
Minority	0.00	53.42	0.00****
Nonminority female	99.94	4.93	
M/WBE total	99.94	58.36	
Other Miscellaneous Manufacturing (NAICS 3399)			
African American	0.13	7.81	1.61****
Hispanic	0.23	1.46	15.68
Asian	0.00	1.08	0.00****
Native American	0.00	0.04	0.00
Minority	0.35	10.39	3.41***
Nonminority female	29.18	27.50	
M/WBE total	29.54	37.89	77.96

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.02	7.14	0.23****
M/WBE total	0.02	7.14	0.23****
Home Furnishings Stores (NAICS 4422)			
African American	16.85	0.94	
Hispanic	0.14	9.73	1.39****
Asian	0.00	7.22	0.00****
Native American	0.00	0.01	0.00
Minority	16.99	17.90	94.89
Nonminority female	24.46	10.14	
M/WBE total	41.45	28.04	
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)			
African American	5.32	5.40	98.40
Hispanic	0.00	3.36	0.00****
Asian	0.00	1.57	0.00****
Native American	0.00	0.26	0.00****
Minority	5.32	10.60	50.18***
Nonminority female	0.07	9.64	0.69****
M/WBE total	5.38	20.23	26.61****
Employment Services (NAICS 5613)			
African American	21.82	9.20	
Hispanic	4.09	2.44	
Asian	0.00	3.33	0.00****
Native American	0.23	0.03	
Minority	26.13	15.00	
Nonminority female	13.09	12.27	
M/WBE total	39.22	27.27	
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)			
African American	0.00	12.67	0.00****
Hispanic	0.00	6.33	0.00****
Asian	13.07	6.33	
Native American	0.00	0.00	
Minority	13.07	25.34	51.57*
Nonminority female	0.00	12.67	0.00****
M/WBE total	13.07	38.01	34.38****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Building Material and Supplies Dealers (NAICS 4441)			
African American	0.00	3.10	0.00****
Hispanic	0.42	0.03	
Asian	0.00	2.35	0.00****
Native American	0.00	0.01	0.00
Minority	0.42	5.50	7.72****
Nonminority female	9.74	16.94	57.46**
M/WBE total	10.16	22.44	45.27****
Other Miscellaneous Store Retailers (NAICS 4539)			
African American	0.00	11.81	0.00****
Hispanic	0.00	3.65	0.00
Asian	0.00	4.95	0.00*
Native American	0.00	0.92	0.00
Minority	0.00	21.33	0.00****
Nonminority female	0.00	17.50	0.00****
M/WBE total	0.00	38.83	0.00****
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	0.57	11.39	4.99****
Hispanic	0.00	2.72	0.00****
Asian	5.79	5.34	
Native American	0.00	1.55	0.00****
Minority	6.35	21.00	30.27****
Nonminority female	22.68	19.59	
M/WBE total	29.03	40.59	71.53
Other Fabricated Metal Product Manufacturing (NAICS 3329)			
African American	0.00	0.19	0.00
Hispanic	0.00	1.51	0.00****
Asian	0.00	2.42	0.00****
Native American	0.00	4.43	0.00****
Minority	0.00	8.55	0.00****
Nonminority female	15.46	18.69	82.69
M/WBE total	15.46	27.24	56.74
Other Electrical Equipment and Component Manufacturing (NAICS 3359)			
African American	0.00	12.46	0.00****
Hispanic	0.00	4.15	0.00****
Asian	0.00	5.60	0.00****
Native American	0.00	0.89	0.00***
Minority	0.00	23.10	0.00****
Nonminority female	0.00	15.77	0.00****
M/WBE total	0.00	38.87	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Electronics and Appliance Stores (NAICS 4431)			
African American	0.11	10.01	1.07****
Hispanic	0.00	0.31	0.00
Asian	0.00	3.00	0.00****
Native American	0.00	0.29	0.00
Minority	0.11	13.62	0.79****
Nonminority female	40.93	15.37	
M/WBE total	41.03	28.99	
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.04	0.00
Asian	0.00	0.83	0.00
Native American	0.00	2.27	0.00**
Minority	0.00	3.34	0.00****
Nonminority female	1.88	21.37	8.78****
M/WBE total	1.88	24.70	7.60****
Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing (NAICS 3252)			
African American	0.00	6.87	0.00****
Hispanic	0.00	0.04	0.00
Asian	0.00	0.07	0.00
Native American	0.00	0.07	0.00
Minority	0.00	7.05	0.00****
Nonminority female	0.00	8.03	0.00****
M/WBE total	0.00	15.08	0.00****
Offices of Real Estate Agents and Brokers (NAICS 5312)			
African American	0.00	7.84	0.00****
Hispanic	0.00	1.56	0.00
Asian	0.00	4.25	0.00**
Native American	0.00	0.33	0.00
Minority	0.00	13.98	0.00****
Nonminority female	0.00	18.14	0.00****
M/WBE total	0.00	32.12	0.00****
Railroad Rolling Stock Manufacturing (NAICS 3365)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	0.00	
M/WBE total	0.00	0.00	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.00	3.95	0.00****
Hispanic	0.00	11.40	0.00****
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	15.35	0.00****
Nonminority female	34.34	20.48	
M/WBE total	34.34	35.83	95.84
Electric Power Generation, Transmission and Distribution (NAICS 2211)			
African American	0.00	1.22	0.00****
Hispanic	0.00	0.01	0.00
Asian	0.00	1.80	0.00****
Native American	0.00	1.11	0.00****
Minority	0.00	4.14	0.00****
Nonminority female	0.00	8.17	0.00****
M/WBE total	0.00	12.31	0.00****
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)			
African American	0.88	13.27	6.63****
Hispanic	0.30	3.63	8.37***
Asian	4.02	5.46	73.67
Native American	0.00	0.96	0.00*
Minority	5.20	23.32	22.31****
Nonminority female	17.44	17.82	97.85
M/WBE total	22.64	41.14	55.03****
Support Activities for Road Transportation (NAICS 4884)			
African American	0.78	6.71	11.58**
Hispanic	0.00	9.01	0.00****
Asian	0.00	0.15	0.00
Native American	0.00	1.78	0.00****
Minority	0.78	17.65	4.40****
Nonminority female	90.45	16.46	
M/WBE total	91.23	34.11	
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)			
African American	0.00	7.82	0.00****
Hispanic	0.00	0.81	0.00*
Asian	0.00	3.77	0.00****
Native American	0.00	0.00	
Minority	0.00	12.40	0.00****
Nonminority female	0.00	13.48	0.00****
M/WBE total	0.00	25.88	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	12.59	0.00****
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.05	0.00
Minority	0.00	12.65	0.00****
Nonminority female	4.51	0.16	
M/WBE total	4.51	12.81	35.16****
Direct Selling Establishments (NAICS 4543)			
African American	32.75	2.43	
Hispanic	0.00	0.82	0.00
Asian	0.00	0.83	0.00
Native American	0.00	0.01	0.00
Minority	32.75	4.08	
Nonminority female	30.72	8.60	
M/WBE total	63.48	12.68	
Other General Purpose Machinery Manufacturing (NAICS 3339)			
African American	14.48	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	14.48	0.00	
Nonminority female	0.33	22.22	1.47****
M/WBE total	14.81	22.22	66.65
Automotive Equipment Rental and Leasing (NAICS 5321)			
African American	0.00	2.08	0.00****
Hispanic	0.00	0.07	0.00
Asian	0.00	2.88	0.00****
Native American	0.00	0.95	0.00***
Minority	0.00	5.98	0.00****
Nonminority female	3.80	3.13	
M/WBE total	3.80	9.11	41.69
Waste Collection (NAICS 5621)			
African American	20.60	23.81	86.52
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	3.14	0.00****
Minority	20.60	26.96	76.43
Nonminority female	1.21	7.25	16.68**
M/WBE total	21.81	34.21	63.76

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Warehousing and Storage (NAICS 4931)			
African American	0.00	10.26	0.00****
Hispanic	0.00	3.17	0.00****
Asian	0.00	4.54	0.00****
Native American	0.00	0.76	0.00****
Minority	0.00	18.73	0.00****
Nonminority female	90.07	13.91	
M/WBE total	90.07	32.64	
Furniture Stores (NAICS 4421)			
African American	0.00	3.83	0.00****
Hispanic	0.00	0.05	0.00
Asian	0.00	0.52	0.00
Native American	0.00	1.19	0.00****
Minority	0.00	5.59	0.00****
Nonminority female	10.51	14.41	72.91
M/WBE total	10.51	20.00	52.55
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)			
African American	0.00	11.19	0.00****
Hispanic	0.00	0.00	
Asian	0.00	1.89	0.00**
Native American	0.00	0.00	
Minority	0.00	13.07	0.00****
Nonminority female	0.00	16.24	0.00****
M/WBE total	0.00	29.31	0.00****
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)			
African American	5.53	8.56	64.62
Hispanic	0.23	0.75	31.28
Asian	0.00	1.35	0.00****
Native American	0.00	0.07	0.00
Minority	5.77	10.73	53.75
Nonminority female	24.67	14.61	
M/WBE total	30.43	25.34	
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)			
African American	0.00	1.09	0.00**
Hispanic	0.00	2.37	0.00**
Asian	0.00	0.01	0.00
Native American	0.00	3.14	0.00****
Minority	0.00	6.61	0.00****
Nonminority female	5.87	6.87	85.43
M/WBE total	5.87	13.48	43.53

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)			
African American	0.00	18.41	0.00****
Hispanic	0.00	0.06	0.00
Asian	0.00	0.13	0.00
Native American	0.00	0.13	0.00
Minority	0.00	18.73	0.00****
Nonminority female	29.67	14.64	
M/WBE total	29.67	33.38	88.90
Petroleum and Coal Products Manufacturing (NAICS 3241)			
African American	10.09	1.71	
Hispanic	0.00	0.61	0.00
Asian	0.00	0.79	0.00
Native American	0.00	0.12	0.00
Minority	10.09	3.24	
Nonminority female	58.23	21.41	
M/WBE total	68.32	24.64	
Clay Product and Refractory Manufacturing (NAICS 3271)			
African American	0.00	12.23	0.00****
Hispanic	0.00	3.35	0.00
Asian	78.11	4.48	
Native American	0.00	0.84	0.00
Minority	78.11	20.90	
Nonminority female	1.14	16.62	6.88****
M/WBE total	79.25	37.52	
Motion Picture and Video Industries (NAICS 5121)			
African American	0.50	14.52	3.47****
Hispanic	81.87	3.33	
Asian	0.00	2.18	0.00****
Native American	0.00	0.10	0.00
Minority	82.37	20.14	
Nonminority female	0.00	25.68	0.00****
M/WBE total	82.37	45.82	
Semiconductor and Other Electronic Component Manufacturing (NAICS 3344)			
African American	0.00	3.11	0.00****
Hispanic	0.00	0.11	0.00
Asian	0.00	0.15	0.00
Native American	0.00	0.05	0.00
Minority	0.00	3.42	0.00****
Nonminority female	0.86	7.64	11.28
M/WBE total	0.86	11.06	7.80***

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.3. Industry Group Utilization, Availability, and Disparity Results for State of Maryland AE-CRS Contracting (Dollars Awarded)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	4.44	7.21	61.58**
Hispanic	1.29	2.17	59.41
Asian	16.02	4.92	
Native American	0.02	1.35	1.32****
Minority	21.76	15.65	
Nonminority female	3.75	10.31	36.36****
M/WBE total	25.51	25.96	98.29
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	12.10	9.23	
Hispanic	2.06	2.09	98.36
Asian	2.72	4.30	63.22
Native American	0.00	1.52	0.00****
Minority	16.87	17.15	98.39
Nonminority female	53.53	15.85	
M/WBE total	70.41	33.00	
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00****
Hispanic	0.00	1.99	0.00****
Asian	1.24	3.41	36.33
Native American	0.00	0.45	0.00****
Minority	1.24	14.61	8.47****
Nonminority female	0.00	10.28	0.00****
M/WBE total	1.24	24.89	4.97****
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	0.00	13.59	0.00****
Hispanic	0.83	3.09	27.03****
Asian	1.49	3.70	40.33****
Native American	0.00	0.38	0.00****
Minority	2.32	20.75	11.20****
Nonminority female	29.97	11.87	
M/WBE total	32.29	32.62	98.99
Other Support Services (NAICS 5619)			
African American	11.52	18.71	61.59**
Hispanic	1.52	2.45	61.79
Asian	0.00	2.57	0.00****
Native American	0.00	0.02	0.00
Minority	13.04	23.75	54.90****
Nonminority female	65.38	28.54	
M/WBE total	78.42	52.30	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Building Equipment Contractors (NAICS 2382)			
African American	8.43	5.81	
Hispanic	34.83	3.16	
Asian	0.00	1.43	0.00****
Native American	0.00	0.13	0.00****
Minority	43.26	10.53	
Nonminority female	0.34	12.18	2.83****
M/WBE total	43.61	22.72	
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	0.34	0.00****
Hispanic	0.00	1.66	0.00****
Asian	99.97	0.89	
Native American	0.00	0.04	0.00
Minority	99.97	2.91	
Nonminority female	0.00	0.92	0.00****
M/WBE total	99.97	3.84	
Community Food and Housing, and Emergency and Other Relief Services (NAICS 6242)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	100.00	9.09	
M/WBE total	100.00	9.09	
Advertising, Public Relations, and Related Services (NAICS 5418)			
African American	3.61	7.68	47.09
Hispanic	0.00	4.62	0.00****
Asian	0.00	1.70	0.00****
Native American	0.00	0.34	0.00****
Minority	3.61	14.33	25.22***
Nonminority female	96.39	26.75	
M/WBE total	100.00	41.08	
Scientific Research and Development Services (NAICS 5417)			
African American	0.00	4.59	0.00****
Hispanic	0.00	0.01	0.00
Asian	0.00	1.12	0.00****
Native American	0.00	0.41	0.00
Minority	0.00	6.13	0.00****
Nonminority female	78.89	6.95	
M/WBE total	78.89	13.08	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Computer Systems Design and Related Services (NAICS 5415)			
African American	3.32	17.01	19.52****
Hispanic	3.73	3.19	
Asian	48.91	13.33	
Native American	11.94	1.24	
Minority	67.90	34.76	
Nonminority female	18.28	13.39	
M/WBE total	86.17	48.15	
Employment Services (NAICS 5613)			
African American	27.16	9.20	
Hispanic	0.00	2.44	0.00****
Asian	0.00	3.33	0.00****
Native American	0.00	0.03	0.00
Minority	27.16	15.00	
Nonminority female	72.84	12.27	
M/WBE total	100.00	27.27	
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.00	4.49	0.00****
Hispanic	0.00	0.02	0.00
Asian	31.23	1.44	
Native American	0.00	1.24	0.00****
Minority	31.23	7.19	
Nonminority female	0.00	8.16	0.00****
M/WBE total	31.23	15.35	

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.4. Industry Group Utilization, Availability, and Disparity Results for State of Maryland AE-CRS Contracting (Dollars Paid)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	4.50	7.26	61.95*
Hispanic	1.08	2.13	50.76
Asian	16.75	4.94	
Native American	0.02	1.34	1.57****
Minority	22.36	15.67	
Nonminority female	3.77	10.40	36.27****
M/WBE total	26.13	26.07	
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00****
Hispanic	0.00	1.99	0.00****
Asian	0.72	3.41	21.11
Native American	0.00	0.45	0.00****
Minority	0.72	14.61	4.92****
Nonminority female	0.00	10.28	0.00****
M/WBE total	0.72	24.89	2.89****
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	13.85	9.44	
Hispanic	1.66	2.25	73.89
Asian	3.24	4.49	72.15
Native American	0.00	1.52	0.00****
Minority	18.75	17.71	
Nonminority female	60.10	16.18	
M/WBE total	78.85	33.88	
Building Equipment Contractors (NAICS 2382)			
African American	4.21	6.47	64.99*
Hispanic	37.24	3.49	
Asian	0.00	1.46	0.00****
Native American	0.00	0.24	0.00****
Minority	41.45	11.67	
Nonminority female	0.37	12.23	3.01****
M/WBE total	41.81	23.89	
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	0.00	13.59	0.00****
Hispanic	1.59	3.09	51.63**
Asian	1.57	3.70	42.51***
Native American	0.00	0.38	0.00****
Minority	3.16	20.75	15.25****
Nonminority female	31.61	11.87	
M/WBE total	34.77	32.62	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	0.34	0.00***
Hispanic	0.00	1.66	0.00****
Asian	99.97	0.89	
Native American	0.00	0.04	0.00
Minority	99.97	2.91	
Nonminority female	0.00	0.92	0.00****
M/WBE total	99.97	3.84	
Other Support Services (NAICS 5619)			
African American	8.07	18.71	43.15****
Hispanic	0.47	2.45	19.19***
Asian	0.00	2.57	0.00****
Native American	0.00	0.02	0.00
Minority	8.54	23.75	35.97****
Nonminority female	63.59	28.54	
M/WBE total	72.13	52.30	
Community Food and Housing, and Emergency and Other Relief Services (NAICS 6242)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	100.00	9.09	
M/WBE total	100.00	9.09	
Advertising, Public Relations, and Related Services (NAICS 5418)			
African American	0.00	7.68	0.00****
Hispanic	0.00	4.62	0.00****
Asian	0.00	1.70	0.00****
Native American	0.00	0.34	0.00****
Minority	0.00	14.33	0.00****
Nonminority female	100.00	26.75	
M/WBE total	100.00	41.08	
Scientific Research and Development Services (NAICS 5417)			
African American	0.00	4.59	0.00****
Hispanic	0.00	0.01	0.00
Asian	0.00	1.12	0.00*
Native American	0.00	0.41	0.00
Minority	0.00	6.13	0.00****
Nonminority female	87.70	6.95	
M/WBE total	87.70	13.08	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Computer Systems Design and Related Services (NAICS 5415)			
African American	0.56	17.01	3.28****
Hispanic	7.96	3.19	
Asian	20.15	13.33	
Native American	12.59	1.24	
Minority	41.26	34.76	
Nonminority female	33.31	13.39	
M/WBE total	74.57	48.15	
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.00	4.49	0.00****
Hispanic	0.00	0.02	0.00
Asian	31.23	1.44	
Native American	0.00	1.24	0.00****
Minority	31.23	7.19	
Nonminority female	0.00	8.16	0.00****
M/WBE total	31.23	15.35	
Employment Services (NAICS 5613)			
African American	46.71	9.20	
Hispanic	0.00	2.44	0.00****
Asian	0.00	3.33	0.00****
Native American	0.00	0.03	0.00
Minority	46.71	15.00	
Nonminority female	53.28	12.27	
M/WBE total	100.00	27.27	
Specialized Design Services (NAICS 5414)			
African American	1.29	17.26	7.48****
Hispanic	0.00	3.04	0.00****
Asian	0.00	4.75	0.00****
Native American	0.00	1.21	0.00***
Minority	1.29	26.26	4.92****
Nonminority female	78.19	21.53	
M/WBE total	79.48	47.79	
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	0.00	7.14	0.00****
Hispanic	0.00	0.00	
Asian	99.93	0.00	
Native American	0.00	0.00	
Minority	99.93	7.14	
Nonminority female	0.07	35.71	0.20****
M/WBE total	100.00	42.86	

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

**Table AE.5. Industry Group Utilization, Availability, and Disparity Results for State of Maryland
Maintenance Contracting (Dollars Awarded)**

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Railroad Rolling Stock Manufacturing (NAICS 3365)			
African American	0.00	0.00	
Hispanic	0.55	0.00	
Asian	0.00	0.00	
Native American	0.19	0.00	
Minority	0.74	0.00	
Nonminority female	6.42	0.00	
M/WBE total	7.16	0.00	
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)			
African American	0.00	8.55	0.00****
Hispanic	0.00	0.23	0.64
Asian	0.00	5.55	0.00****
Native American	0.00	0.12	0.00
Minority	0.00	14.44	0.01****
Nonminority female	0.00	11.32	0.00****
M/WBE total	0.00	25.76	0.01****
Building Equipment Contractors (NAICS 2382)			
African American	12.54	10.69	
Hispanic	1.46	3.56	41.11****
Asian	0.38	1.04	36.83
Native American	0.07	0.47	15.58*
Minority	14.46	15.77	91.73
Nonminority female	6.23	13.07	47.70****
M/WBE total	20.70	28.84	71.78****
Facilities Support Services (NAICS 5612)			
African American	0.78	26.39	2.97****
Hispanic	0.74	3.77	19.66
Asian	0.05	2.52	1.92*
Native American	0.00	1.15	0.00****
Minority	1.57	33.83	4.66****
Nonminority female	0.00	9.10	0.00****
M/WBE total	1.57	42.92	3.67****
Investigation and Security Services (NAICS 5616)			
African American	22.11	20.58	
Hispanic	0.00	1.89	0.00****
Asian	0.00	3.21	0.00****
Native American	0.00	1.48	0.00****
Minority	22.11	27.17	81.40
Nonminority female	26.58	11.62	
M/WBE total	48.69	38.79	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Services to Buildings and Dwellings (NAICS 5617)			
African American	21.64	22.48	96.26
Hispanic	2.99	6.98	42.81***
Asian	1.27	3.48	36.66*
Native American	0.00	1.19	0.00****
Minority	25.91	34.13	75.89*
Nonminority female	11.64	12.62	92.19
M/WBE total	37.54	46.76	80.29*
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	0.86	13.59	6.33****
Hispanic	3.08	3.09	99.65
Asian	4.54	3.70	
Native American	0.00	0.38	0.00****
Minority	8.47	20.75	40.84****
Nonminority female	17.30	11.87	
M/WBE total	25.77	32.62	79.00****
Other Specialty Trade Contractors (NAICS 2389)			
African American	0.67	6.64	10.09****
Hispanic	1.99	3.38	58.96
Asian	0.00	3.51	0.00****
Native American	0.00	3.36	0.00****
Minority	2.66	16.89	15.76****
Nonminority female	17.05	11.47	
M/WBE total	19.71	28.36	69.52**
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)			
African American	2.21	4.28	51.68***
Hispanic	18.60	6.80	
Asian	4.34	1.58	
Native American	0.00	1.57	0.00****
Minority	25.15	14.23	
Nonminority female	0.25	11.29	2.20****
M/WBE total	25.40	25.52	99.52
Business Support Services (NAICS 5614)			
African American	0.00	18.77	0.02****
Hispanic	0.00	4.72	0.00****
Asian	0.00	4.66	0.00****
Native American	0.00	5.24	0.00****
Minority	0.00	33.41	0.01****
Nonminority female	0.00	15.17	0.00****
M/WBE total	0.00	48.58	0.01****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Interurban and Rural Bus Transportation (NAICS 4852)			
African American	0.00	20.62	0.00****
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	20.62	0.00****
Nonminority female	0.00	14.38	0.00****
M/WBE total	0.00	35.00	0.00****
Support Activities for Road Transportation (NAICS 4884)			
African American	0.00	6.71	0.00****
Hispanic	0.00	9.01	0.00****
Asian	0.00	0.15	0.00
Native American	0.00	1.78	0.00****
Minority	0.00	17.65	0.00****
Nonminority female	0.08	16.46	0.49****
M/WBE total	0.08	34.11	0.24****
Nonresidential Building Construction (NAICS 2362)			
African American	2.90	12.17	23.82****
Hispanic	2.80	6.74	41.57***
Asian	0.86	4.46	19.23****
Native American	0.00	2.09	0.00****
Minority	6.56	25.46	25.76****
Nonminority female	2.52	10.01	25.22****
M/WBE total	9.08	35.47	25.61****
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00****
Hispanic	0.00	1.99	0.00****
Asian	0.37	3.41	10.90
Native American	0.00	0.45	0.00****
Minority	0.37	14.61	2.54****
Nonminority female	94.48	10.28	
M/WBE total	94.85	24.89	
Support Activities for Rail Transportation (NAICS 4882)			
African American	0.00	18.21	0.00****
Hispanic	0.00	12.34	0.00****
Asian	0.00	3.80	0.00****
Native American	0.00	2.17	0.00****
Minority	0.00	36.52	0.00****
Nonminority female	1.00	13.75	7.28
M/WBE total	1.00	50.27	1.99****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.10	4.46	2.19****
Hispanic	0.00	0.28	0.00****
Asian	0.00	1.64	0.00****
Native American	0.00	1.16	0.00****
Minority	0.10	7.54	1.30****
Nonminority female	0.38	8.28	4.62****
M/WBE total	0.48	15.82	3.04****
Direct Selling Establishments (NAICS 4543)			
African American	33.28	2.43	
Hispanic	0.00	0.82	0.00****
Asian	0.00	0.83	0.00****
Native American	0.00	0.01	0.00
Minority	33.28	4.08	
Nonminority female	64.99	8.60	
M/WBE total	98.27	12.68	
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	1.24	6.75	18.39****
Hispanic	0.37	2.06	18.04****
Asian	10.13	5.33	
Native American	0.00	1.57	0.00****
Minority	11.75	15.71	74.77**
Nonminority female	6.79	9.40	72.22
M/WBE total	18.54	25.12	73.81***
Urban Transit Systems (NAICS 4851)			
African American	0.00	42.42	0.00****
Hispanic	0.00	4.79	0.00****
Asian	0.00	10.65	0.00****
Native American	0.00	0.12	0.00
Minority	0.00	57.97	0.00****
Nonminority female	0.00	5.04	0.00****
M/WBE total	0.00	63.02	0.00****
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)			
African American	0.00	1.09	0.00****
Hispanic	0.00	2.37	0.00****
Asian	0.00	0.01	0.00
Native American	0.00	3.14	0.00****
Minority	0.00	6.61	0.00****
Nonminority female	0.29	6.87	4.26
M/WBE total	0.29	13.48	2.17****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Waste Collection (NAICS 5621)			
African American	36.08	23.81	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	3.14	0.00****
Minority	36.08	26.96	
Nonminority female	0.49	7.25	6.74***
M/WBE total	36.57	34.21	
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)			
African American	0.00	5.95	0.00****
Hispanic	0.00	2.11	0.00****
Asian	0.00	0.41	0.00
Native American	0.00	0.01	0.00
Minority	0.00	8.48	0.00****
Nonminority female	0.01	3.20	0.35****
M/WBE total	0.01	11.68	0.10****
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)			
African American	0.00	1.79	0.00****
Hispanic	0.00	3.65	0.00****
Asian	0.00	2.27	0.00****
Native American	0.00	1.22	0.00****
Minority	0.00	8.94	0.00****
Nonminority female	0.30	7.00	4.30****
M/WBE total	0.30	15.93	1.89****
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.00	6.61	0.00****
Hispanic	0.00	2.28	0.00****
Asian	0.00	4.18	0.00****
Native American	0.00	0.01	0.00
Minority	0.00	13.08	0.00****
Nonminority female	0.00	7.40	0.00****
M/WBE total	0.00	20.48	0.00****
Specialized Freight Trucking (NAICS 4842)			
African American	49.66	24.84	
Hispanic	0.61	7.48	8.10****
Asian	0.56	1.87	29.91
Native American	0.00	0.12	0.00****
Minority	50.82	34.32	
Nonminority female	0.32	11.65	2.75****
M/WBE total	51.14	45.97	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)			
African American	6.41	4.84	
Hispanic	0.00	1.78	0.00****
Asian	10.37	1.16	
Native American	0.00	1.23	0.00****
Minority	16.77	9.01	
Nonminority female	31.99	11.47	
M/WBE total	48.77	20.48	
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)			
African American	3.82	3.61	
Hispanic	0.00	0.27	0.00****
Asian	0.07	0.82	8.93****
Native American	0.00	0.52	0.00****
Minority	3.90	5.22	74.68
Nonminority female	10.91	11.17	97.74
M/WBE total	14.81	16.38	90.40
Automobile Dealers (NAICS 4411)			
African American	0.00	4.17	0.00****
Hispanic	0.00	2.71	0.00****
Asian	0.00	2.96	0.00****
Native American	0.00	0.05	0.00
Minority	0.00	9.89	0.00****
Nonminority female	0.00	10.16	0.00****
M/WBE total	0.00	20.05	0.00****
Motor Vehicle Parts Manufacturing (NAICS 3363)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.06	0.00	
M/WBE total	0.06	0.00	
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)			
African American	2.88	1.23	
Hispanic	0.00	0.00	0.00
Asian	0.00	2.83	0.00****
Native American	0.00	0.00	0.00
Minority	2.88	4.06	70.99
Nonminority female	0.34	4.07	8.34****
M/WBE total	3.22	8.13	39.63***

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Waste Treatment and Disposal (NAICS 5622)			
African American	0.00	8.77	0.00****
Hispanic	0.00	2.81	0.00****
Asian	1.23	0.97	
Native American	0.00	0.00	
Minority	1.23	12.54	9.81****
Nonminority female	6.57	22.25	29.51**
M/WBE total	7.80	34.80	22.41****
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	10.38	6.85	
Hispanic	47.27	2.26	
Asian	0.00	4.41	0.00****
Native American	0.00	2.20	0.00****
Minority	57.66	15.72	
Nonminority female	0.00	18.78	0.00****
M/WBE total	57.66	34.50	
Building Finishing Contractors (NAICS 2383)			
African American	0.95	5.24	18.05****
Hispanic	39.14	17.85	
Asian	1.54	3.19	48.14*
Native American	0.69	0.05	
Minority	42.31	26.33	
Nonminority female	19.65	12.89	
M/WBE total	61.96	39.23	
Traveler Accommodation (NAICS 7211)			
African American	0.00	0.13	0.00
Hispanic	0.00	1.43	0.00****
Asian	0.76	10.56	7.17****
Native American	0.00	3.60	0.00****
Minority	0.76	15.72	4.82****
Nonminority female	0.76	9.94	7.62****
M/WBE total	1.51	25.65	5.91****
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)			
African American	0.00	10.59	0.00****
Hispanic	0.00	3.98	0.00****
Asian	1.89	5.58	33.87**
Native American	0.00	0.11	0.00
Minority	1.89	20.27	9.33****
Nonminority female	63.36	17.56	
M/WBE total	65.25	37.82	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Employment Services (NAICS 5613)			
African American	60.07	11.34	
Hispanic	0.00	2.41	0.00****
Asian	0.00	4.18	0.00****
Native American	0.00	0.19	0.00****
Minority	60.07	18.13	
Nonminority female	12.97	13.84	93.74
M/WBE total	73.05	31.97	
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	0.00	8.07	0.00****
Hispanic	0.97	0.42	
Asian	68.52	1.68	
Native American	0.00	0.24	0.00****
Minority	69.49	10.41	
Nonminority female	6.61	28.55	23.15****
M/WBE total	76.10	38.96	
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	12.59	0.00****
Hispanic	0.00	0.00	
Asian	0.83	0.00	
Native American	0.00	0.05	0.00
Minority	0.83	12.65	6.54****
Nonminority female	0.00	0.16	0.00****
M/WBE total	0.83	12.81	6.46****
Electric Lighting Equipment Manufacturing (NAICS 3351)			
African American	0.34	2.16	15.95**
Hispanic	0.00	0.04	0.00
Asian	0.00	0.08	0.00
Native American	0.00	5.87	0.00****
Minority	0.34	8.15	4.23****
Nonminority female	12.29	13.06	94.14
M/WBE total	12.64	21.21	59.60***
Remediation and Other Waste Management Services (NAICS 5629)			
African American	0.00	6.29	0.00****
Hispanic	0.00	2.91	0.00****
Asian	0.00	1.99	0.00****
Native American	0.00	0.05	0.00
Minority	0.00	11.24	0.00****
Nonminority female	59.86	14.80	
M/WBE total	59.86	26.04	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Architectural and Structural Metals Manufacturing (NAICS 3323)			
African American	0.00	3.47	0.00****
Hispanic	0.00	0.04	0.00
Asian	0.00	0.06	0.00
Native American	0.00	0.84	0.00****
Minority	0.00	4.41	0.00****
Nonminority female	5.53	12.76	43.34****
M/WBE total	5.53	17.17	32.22****
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)			
African American	91.38	6.23	
Hispanic	0.00	4.13	0.00****
Asian	0.00	7.07	0.00****
Native American	0.00	1.19	0.00****
Minority	91.38	18.62	
Nonminority female	4.19	6.46	64.87
M/WBE total	95.57	25.08	
Utility System Construction (NAICS 2371)			
African American	0.00	9.16	0.00****
Hispanic	0.00	1.81	0.00****
Asian	0.00	2.38	0.00****
Native American	0.00	1.15	0.00****
Minority	0.00	14.49	0.00****
Nonminority female	36.70	10.41	
M/WBE total	36.70	24.90	
Computer Systems Design and Related Services (NAICS 5415)			
African American	9.33	17.02	54.82
Hispanic	38.14	3.15	
Asian	0.00	15.07	0.00****
Native American	0.00	1.04	0.00****
Minority	47.48	36.29	
Nonminority female	0.00	11.45	0.00****
M/WBE total	47.48	47.74	99.45
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)			
African American	0.01	10.28	0.06****
Hispanic	0.00	0.06	0.00
Asian	0.00	7.17	0.00****
Native American	0.00	0.04	0.00
Minority	0.01	17.55	0.03****
Nonminority female	0.41	18.00	2.27****
M/WBE total	0.41	35.55	1.16****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.04	0.00
Asian	0.00	0.83	0.00
Native American	0.00	2.27	0.00****
Minority	0.00	3.34	0.00****
Nonminority female	0.00	21.37	0.00****
M/WBE total	0.00	24.70	0.00****
Automotive Repair and Maintenance (NAICS 8111)			
African American	0.34	8.22	4.16****
Hispanic	0.00	3.96	0.00****
Asian	0.00	9.00	0.00****
Native American	0.00	0.18	0.00
Minority	0.34	21.36	1.60****
Nonminority female	0.00	11.62	0.00****
M/WBE total	0.34	32.98	1.04****
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)			
African American	0.00	6.82	0.00****
Hispanic	0.11	3.48	3.07****
Asian	0.00	2.38	0.00****
Native American	0.00	0.40	0.00****
Minority	0.11	13.08	0.82****
Nonminority female	0.07	11.15	0.64****
M/WBE total	0.18	24.23	0.74****
Building Material and Supplies Dealers (NAICS 4441)			
African American	0.00	4.87	0.00****
Hispanic	0.00	1.40	0.00****
Asian	0.00	1.91	0.00****
Native American	0.00	0.35	0.00****
Minority	0.00	8.53	0.00****
Nonminority female	0.00	10.96	0.00****
M/WBE total	0.00	19.49	0.00****
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)			
African American	0.00	7.82	0.00****
Hispanic	0.00	0.81	0.00****
Asian	0.00	3.77	0.00****
Native American	0.00	0.00	
Minority	0.00	12.40	0.00****
Nonminority female	0.00	13.48	0.00****
M/WBE total	0.00	25.88	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Support Activities for Air Transportation (NAICS 4881)			
African American	0.00	18.32	0.00****
Hispanic	0.00	1.91	0.00
Asian	0.00	2.91	0.00****
Native American	0.00	0.13	0.00
Minority	0.00	23.27	0.00****
Nonminority female	0.00	2.42	0.00
M/WBE total	0.00	25.69	0.00****
Aerospace Product and Parts Manufacturing (NAICS 3364)			
African American	0.00	0.00	
Hispanic	0.00	4.35	0.00****
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	4.35	0.00****
Nonminority female	0.00	19.13	0.00****
M/WBE total	0.00	23.48	0.00****
Couriers and Express Delivery Services (NAICS 4921)			
African American	5.93	24.20	24.52
Hispanic	0.00	3.10	0.00****
Asian	72.94	0.10	
Native American	0.00	2.52	0.00****
Minority	78.88	29.93	
Nonminority female	0.00	1.80	0.00****
M/WBE total	78.88	31.73	
Rail Transportation (NAICS 4821)			
African American	0.00	0.65	0.00
Hispanic	0.00	0.14	0.00
Asian	0.00	0.20	0.00
Native American	0.00	0.08	0.00
Minority	0.00	1.06	0.00
Nonminority female	0.00	1.69	0.00****
M/WBE total	0.00	2.74	0.00****
Cement and Concrete Product Manufacturing (NAICS 3273)			
African American	0.00	2.95	0.00****
Hispanic	23.48	0.05	
Asian	0.00	0.07	0.00
Native American	0.00	0.01	0.00
Minority	23.48	3.08	
Nonminority female	1.44	0.19	
M/WBE total	24.92	3.27	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Freight Transportation Arrangement (NAICS 4885)			
African American	0.00	17.82	0.00****
Hispanic	0.00	4.09	0.00
Asian	0.00	7.34	0.00****
Native American	0.00	0.18	0.00
Minority	0.00	29.44	0.00****
Nonminority female	0.00	11.67	0.00****
M/WBE total	0.00	41.11	0.00****
Other General Purpose Machinery Manufacturing (NAICS 3339)			
African American	0.00	7.69	0.00****
Hispanic	0.00	0.00	
Asian	0.00	15.38	0.00****
Native American	0.00	0.00	
Minority	0.00	23.08	0.00****
Nonminority female	1.36	24.62	5.51****
M/WBE total	1.36	47.69	2.84****
Vocational Rehabilitation Services (NAICS 6243)			
African American	0.00	13.63	0.00****
Hispanic	0.00	4.02	0.00****
Asian	0.00	5.48	0.00****
Native American	0.00	0.90	0.00
Minority	0.00	24.02	0.00****
Nonminority female	0.00	16.19	0.00****
M/WBE total	0.00	40.22	0.00****
Electric Power Generation, Transmission and Distribution (NAICS 2211)			
African American	0.00	1.22	0.00****
Hispanic	0.00	0.01	0.00
Asian	0.00	1.80	0.00****
Native American	0.00	1.11	0.00****
Minority	0.00	4.14	0.00****
Nonminority female	0.00	8.17	0.00****
M/WBE total	0.00	12.31	0.00****

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.6. Industry Group Utilization, Availability, and Disparity Results for State of Maryland Maintenance Contracting (Dollars Paid)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Facilities Support Services (NAICS 5612)			
African American	1.19	26.39	4.50***
Hispanic	1.12	3.77	29.78
Asian	0.07	2.52	2.90
Native American	0.00	1.15	0.00****
Minority	2.39	33.83	7.05***
Nonminority female	0.00	9.10	0.00****
M/WBE total	2.39	42.92	5.56****
Services to Buildings and Dwellings (NAICS 5617)			
African American	21.62	24.05	89.92
Hispanic	2.48	8.07	30.72****
Asian	1.70	3.73	45.54
Native American	0.00	0.88	0.00****
Minority	25.80	36.74	70.24***
Nonminority female	14.10	13.01	
M/WBE total	39.90	49.75	80.20**
Building Equipment Contractors (NAICS 2382)			
African American	4.58	9.54	48.04****
Hispanic	1.50	4.14	36.19****
Asian	0.98	1.33	73.66
Native American	0.19	0.54	35.44
Minority	7.25	15.55	46.63****
Nonminority female	12.44	12.67	98.13
M/WBE total	19.69	28.22	69.76****
Investigation and Security Services (NAICS 5616)			
African American	24.45	20.72	
Hispanic	0.00	1.97	0.00****
Asian	0.00	2.96	0.00****
Native American	0.00	1.56	0.00****
Minority	24.45	27.22	89.83
Nonminority female	8.37	11.51	72.74
M/WBE total	32.83	38.73	84.75
Business Support Services (NAICS 5614)			
African American	0.00	19.11	0.00****
Hispanic	0.00	4.83	0.00****
Asian	0.00	4.34	0.00****
Native American	0.00	5.33	0.00****
Minority	0.00	33.61	0.00****
Nonminority female	0.00	15.31	0.00****
M/WBE total	0.00	48.92	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	0.04	13.59	0.32****
Hispanic	2.16	3.09	70.07
Asian	0.00	3.70	0.00****
Native American	0.00	0.38	0.00****
Minority	2.21	20.75	10.63****
Nonminority female	8.78	11.87	73.95**
M/WBE total	10.99	32.62	33.68****
Nonresidential Building Construction (NAICS 2362)			
African American	3.29	12.17	27.02****
Hispanic	2.26	6.74	33.55****
Asian	1.06	4.46	23.83****
Native American	0.00	2.09	0.00****
Minority	6.61	25.46	25.97****
Nonminority female	2.97	10.01	29.68****
M/WBE total	9.58	35.47	27.02****
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)			
African American	4.82	5.87	82.03
Hispanic	27.77	7.64	
Asian	0.18	1.73	10.65****
Native American	0.00	1.07	0.00****
Minority	32.77	16.31	
Nonminority female	0.46	10.23	4.51****
M/WBE total	33.24	26.55	
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)			
African American	0.00	1.09	0.00**
Hispanic	0.00	2.37	0.00**
Asian	0.00	0.01	0.00
Native American	0.00	3.14	0.00****
Minority	0.00	6.61	0.00****
Nonminority female	0.00	6.87	0.00****
M/WBE total	0.00	13.48	0.00****
Other Specialty Trade Contractors (NAICS 2389)			
African American	2.26	6.73	33.54**
Hispanic	8.41	4.03	
Asian	0.00	3.60	0.00****
Native American	0.00	3.12	0.00****
Minority	10.67	17.48	61.04
Nonminority female	0.46	11.55	3.96****
M/WBE total	11.12	29.02	38.33****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)			
African American	0.00	1.78	0.00****
Hispanic	0.00	3.65	0.00****
Asian	0.00	2.27	0.00****
Native American	0.00	1.22	0.00****
Minority	0.00	8.92	0.00****
Nonminority female	0.00	6.99	0.00****
M/WBE total	0.00	15.91	0.00****
Automobile Dealers (NAICS 4411)			
African American	0.00	4.17	0.00****
Hispanic	0.00	2.71	0.00****
Asian	0.00	2.96	0.00****
Native American	0.00	0.05	0.00
Minority	0.00	9.89	0.00****
Nonminority female	0.00	10.16	0.00****
M/WBE total	0.00	20.05	0.00****
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00****
Hispanic	0.00	1.99	0.00****
Asian	0.00	3.41	0.00****
Native American	0.00	0.45	0.00****
Minority	0.00	14.61	0.00****
Nonminority female	78.93	10.28	
M/WBE total	78.93	24.89	
Building Finishing Contractors (NAICS 2383)			
African American	0.98	4.88	20.02****
Hispanic	39.09	17.36	
Asian	1.59	3.80	41.77***
Native American	0.71	0.09	
Minority	42.37	26.12	
Nonminority female	19.80	12.93	
M/WBE total	62.17	39.05	
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)			
African American	7.99	4.95	
Hispanic	0.00	1.91	0.00****
Asian	11.05	1.20	
Native American	0.00	1.07	0.00****
Minority	19.04	9.12	
Nonminority female	32.47	11.25	
M/WBE total	51.51	20.37	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)			
African American	0.00	5.95	0.00****
Hispanic	0.00	2.11	0.00****
Asian	0.00	0.41	0.00
Native American	0.00	0.01	0.00
Minority	0.00	8.48	0.00****
Nonminority female	0.03	3.20	0.82****
M/WBE total	0.03	11.68	0.22****
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	0.00	7.74	0.00****
Hispanic	1.02	0.48	
Asian	67.88	1.88	
Native American	0.00	0.30	0.00****
Minority	68.91	10.40	
Nonminority female	6.86	26.80	25.60****
M/WBE total	75.77	37.20	
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)			
African American	7.20	4.37	
Hispanic	0.00	0.42	0.00****
Asian	0.14	1.68	8.20****
Native American	0.00	0.72	0.00****
Minority	7.34	7.20	
Nonminority female	16.52	11.46	
M/WBE total	23.86	18.66	
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	12.59	0.00****
Hispanic	0.00	0.00	
Asian	0.84	0.00	
Native American	0.00	0.05	0.00
Minority	0.84	12.65	6.61****
Nonminority female	0.00	0.16	0.00**
M/WBE total	0.84	12.81	6.52****
Employment Services (NAICS 5613)			
African American	47.07	11.95	
Hispanic	0.00	2.41	0.00****
Asian	0.00	4.42	0.00****
Native American	0.00	0.24	0.00***
Minority	47.07	19.02	
Nonminority female	18.51	14.28	
M/WBE total	65.58	33.30	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	0.00	7.19	0.00****
Hispanic	2.23	2.09	
Asian	5.66	5.07	
Native American	0.00	1.39	0.00****
Minority	7.89	15.74	50.09****
Nonminority female	17.22	10.16	
M/WBE total	25.10	25.90	96.92
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.04	0.00
Asian	0.00	0.83	0.00
Native American	0.00	2.27	0.00**
Minority	0.00	3.34	0.00****
Nonminority female	0.00	21.37	0.00****
M/WBE total	0.00	24.70	0.00****
Electric Lighting Equipment Manufacturing (NAICS 3351)			
African American	0.52	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	7.14	0.00****
Minority	0.52	7.14	7.27****
Nonminority female	16.66	10.71	
M/WBE total	17.18	17.86	96.20
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.87	4.46	19.44****
Hispanic	0.00	0.30	0.00****
Asian	0.00	1.65	0.00****
Native American	0.00	1.15	0.00****
Minority	0.87	7.57	11.45****
Nonminority female	1.49	8.29	17.95****
M/WBE total	2.36	15.86	14.85****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Computer Systems Design and Related Services (NAICS 5415)			
African American	0.00	18.06	0.00****
Hispanic	51.56	2.69	
Asian	0.00	14.38	0.00****
Native American	0.00	0.92	0.00****
Minority	51.56	36.04	
Nonminority female	0.00	11.31	0.00****
M/WBE total	51.56	47.35	
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)			
African American	9.30	1.14	
Hispanic	0.00	0.01	0.00
Asian	0.00	2.86	0.00****
Native American	0.00	0.00	0.00
Minority	9.30	4.01	
Nonminority female	0.08	3.98	1.91****
M/WBE total	9.38	7.99	
Architectural and Structural Metals Manufacturing (NAICS 3323)			
African American	0.00	3.15	0.00****
Hispanic	0.00	0.04	0.00
Asian	0.00	0.06	0.00
Native American	0.00	0.91	0.00****
Minority	0.00	4.16	0.00****
Nonminority female	2.17	12.48	17.41****
M/WBE total	2.17	16.64	13.06****
Building Material and Supplies Dealers (NAICS 4441)			
African American	0.00	5.65	0.00****
Hispanic	0.00	1.68	0.00****
Asian	0.00	2.30	0.00****
Native American	0.00	0.42	0.00****
Minority	0.00	10.05	0.00****
Nonminority female	0.00	11.17	0.00****
M/WBE total	0.00	21.22	0.00****
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)			
African American	0.00	8.61	0.00****
Hispanic	0.00	3.62	0.00****
Asian	7.11	4.88	
Native American	0.00	0.59	0.00****
Minority	7.11	17.70	40.17****
Nonminority female	4.47	15.83	28.24****
M/WBE total	11.58	33.53	34.53****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Automotive Repair and Maintenance (NAICS 8111)			
African American	0.60	6.39	9.41***
Hispanic	0.00	2.50	0.00****
Asian	0.00	10.64	0.00****
Native American	0.00	0.10	0.00
Minority	0.60	19.63	3.06****
Nonminority female	0.00	12.76	0.00****
M/WBE total	0.60	32.40	1.85****
Waste Collection (NAICS 5621)			
African American	0.00	23.81	0.00****
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	3.14	0.00****
Minority	0.00	26.96	0.00****
Nonminority female	5.14	7.25	70.89
M/WBE total	5.14	34.21	15.03****
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)			
African American	0.01	10.28	0.12****
Hispanic	0.00	0.06	0.00
Asian	0.00	7.17	0.00****
Native American	0.00	0.04	0.00
Minority	0.01	17.55	0.07****
Nonminority female	0.36	18.00	2.01****
M/WBE total	0.37	35.55	1.05****
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing (NAICS 3334)			
African American	0.00	7.82	0.00****
Hispanic	0.00	0.81	0.00*
Asian	0.00	3.77	0.00****
Native American	0.00	0.00	
Minority	0.00	12.40	0.00****
Nonminority female	0.00	13.48	0.00****
M/WBE total	0.00	25.88	0.00****
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)			
African American	0.00	6.14	0.00****
Hispanic	0.00	3.43	0.00****
Asian	0.00	1.99	0.00****
Native American	0.00	0.33	0.00****
Minority	0.00	11.88	0.00****
Nonminority female	0.00	10.42	0.00****
M/WBE total	0.00	22.30	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Railroad Rolling Stock Manufacturing (NAICS 3365)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	0.00	
M/WBE total	0.00	0.00	
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	57.80	14.05	
Hispanic	0.00	2.73	0.00****
Asian	0.00	6.00	0.00****
Native American	0.00	1.11	0.00****
Minority	57.80	23.89	
Nonminority female	0.00	18.83	0.00****
M/WBE total	57.80	42.72	
Utility System Construction (NAICS 2371)			
African American	0.00	9.16	0.00****
Hispanic	0.00	1.81	0.00****
Asian	0.00	2.38	0.00****
Native American	0.00	1.15	0.00****
Minority	0.00	14.49	0.00****
Nonminority female	0.00	10.41	0.00****
M/WBE total	0.00	24.90	0.00****
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.00	3.95	0.00****
Hispanic	0.00	11.40	0.00****
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	15.35	0.00****
Nonminority female	0.00	20.48	0.00****
M/WBE total	0.00	35.83	0.00****
Remediation and Other Waste Management Services (NAICS 5629)			
African American	0.00	3.19	0.00****
Hispanic	0.00	8.67	0.00****
Asian	0.00	9.26	0.00****
Native American	0.00	0.00	
Minority	0.00	21.12	0.00****
Nonminority female	0.74	14.17	5.19****
M/WBE total	0.74	35.29	2.08****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Rail Transportation (NAICS 4821)			
African American	0.00	0.65	0.00
Hispanic	0.00	0.14	0.00
Asian	0.00	0.20	0.00
Native American	0.00	0.08	0.00
Minority	0.00	1.06	0.00
Nonminority female	0.00	1.69	0.00**
M/WBE total	0.00	2.74	0.00**
Other General Purpose Machinery Manufacturing (NAICS 3339)			
African American	0.00	7.69	0.00****
Hispanic	0.00	0.00	
Asian	0.00	15.38	0.00****
Native American	0.00	0.00	
Minority	0.00	23.08	0.00****
Nonminority female	1.48	24.62	6.02****
M/WBE total	1.48	47.69	3.11****
Cement and Concrete Product Manufacturing (NAICS 3273)			
African American	0.00	2.82	0.00****
Hispanic	9.94	0.55	
Asian	0.00	0.05	0.00
Native American	0.00	0.01	0.00
Minority	9.94	3.43	
Nonminority female	0.14	2.68	5.16****
M/WBE total	10.08	6.11	
Vocational Rehabilitation Services (NAICS 6243)			
African American	0.00	13.63	0.00****
Hispanic	0.00	4.02	0.00****
Asian	0.00	5.48	0.00****
Native American	0.00	0.90	0.00
Minority	0.00	24.02	0.00****
Nonminority female	0.00	16.19	0.00****
M/WBE total	0.00	40.22	0.00****
Electric Power Generation, Transmission and Distribution (NAICS 2211)			
African American	0.00	1.22	0.00****
Hispanic	0.00	0.01	0.00
Asian	0.00	1.80	0.00****
Native American	0.00	1.11	0.00****
Minority	0.00	4.14	0.00****
Nonminority female	0.00	8.17	0.00****
M/WBE total	0.00	12.31	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Waste Treatment and Disposal (NAICS 5622)			
African American	0.00	8.77	0.00****
Hispanic	0.00	2.81	0.00****
Asian	14.19	0.97	
Native American	0.00	0.00	
Minority	14.19	12.54	
Nonminority female	48.45	22.25	
M/WBE total	62.64	34.80	
Other Support Services (NAICS 5619)			
African American	0.00	18.71	0.00****
Hispanic	0.00	2.45	0.00****
Asian	0.00	2.57	0.00****
Native American	0.00	0.02	0.00
Minority	0.00	23.75	0.00****
Nonminority female	2.69	28.54	9.44****
M/WBE total	2.69	52.30	5.15****
Paper and Paper Product Merchant Wholesalers (NAICS 4241)			
African American	0.00	13.25	0.00****
Hispanic	0.00	3.47	0.00****
Asian	0.00	4.58	0.00****
Native American	0.00	0.91	0.00
Minority	0.00	22.21	0.00****
Nonminority female	0.00	16.14	0.00****
M/WBE total	0.00	38.35	0.00****
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)			
African American	0.00	8.55	0.00****
Hispanic	0.00	0.23	0.00*
Asian	0.00	5.55	0.00****
Native American	0.00	0.12	0.00
Minority	0.00	14.44	0.00****
Nonminority female	0.00	11.32	0.00****
M/WBE total	0.00	25.76	0.00****
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)			
African American	84.87	6.23	
Hispanic	0.00	4.13	0.00****
Asian	0.00	7.07	0.00****
Native American	0.00	1.19	0.00***
Minority	84.87	18.62	
Nonminority female	0.00	6.46	0.00****
M/WBE total	84.87	25.08	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Home Furnishings Stores (NAICS 4422)			
African American	0.00	0.94	0.00**
Hispanic	0.00	9.73	0.00****
Asian	0.00	7.22	0.00****
Native American	0.00	0.01	0.00
Minority	0.00	17.90	0.00****
Nonminority female	0.00	10.14	0.00****
M/WBE total	0.00	28.04	0.00****
Glass and Glass Product Manufacturing (NAICS 3272)			
African American	0.00	12.34	0.00****
Hispanic	0.00	4.39	0.00***
Asian	0.00	4.63	0.00***
Native American	0.00	0.89	0.00
Minority	0.00	22.26	0.00****
Nonminority female	0.00	17.86	0.00****
M/WBE total	0.00	40.12	0.00****
Petroleum and Coal Products Manufacturing (NAICS 3241)			
African American	0.00	1.71	0.00****
Hispanic	0.00	0.61	0.00
Asian	0.00	0.79	0.00
Native American	0.00	0.12	0.00
Minority	0.00	3.24	0.00****
Nonminority female	3.27	21.41	15.26****
M/WBE total	3.27	24.64	13.26****
Other Fabricated Metal Product Manufacturing (NAICS 3329)			
African American	0.00	11.11	0.00****
Hispanic	0.00	3.84	0.00****
Asian	0.00	7.43	0.00****
Native American	0.00	1.12	0.00*
Minority	0.00	23.49	0.00****
Nonminority female	0.35	14.91	2.35****
M/WBE total	0.35	38.40	0.91****
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)			
African American	0.00	13.94	0.00****
Hispanic	0.00	3.66	0.00****
Asian	0.00	5.26	0.00****
Native American	0.00	0.98	0.00*
Minority	0.00	23.83	0.00****
Nonminority female	0.00	18.45	0.00****
M/WBE total	0.00	42.28	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Specialized Freight Trucking (NAICS 4842)			
African American	11.30	24.84	45.48****
Hispanic	1.18	7.48	15.74****
Asian	19.58	1.87	
Native American	0.00	0.12	0.00****
Minority	32.06	34.32	93.41
Nonminority female	7.33	11.65	62.89
M/WBE total	39.39	45.97	85.68
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)			
African American	0.00	12.67	0.00****
Hispanic	0.00	3.63	0.00****
Asian	0.00	5.93	0.00****
Native American	0.00	0.86	0.00
Minority	0.00	23.09	0.00****
Nonminority female	0.00	16.66	0.00****
M/WBE total	0.00	39.74	0.00****
Personal and Household Goods Repair and Maintenance (NAICS 8114)			
African American	0.00	12.24	0.00****
Hispanic	0.00	4.03	0.00****
Asian	0.00	5.88	0.00****
Native American	0.00	1.00	0.00
Minority	0.00	23.14	0.00****
Nonminority female	0.00	18.58	0.00****
M/WBE total	0.00	41.73	0.00****
Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324)			
African American	0.00	8.61	0.00****
Hispanic	0.00	3.07	0.00
Asian	0.00	4.00	0.00
Native American	0.00	0.61	0.00
Minority	0.00	16.29	0.00****
Nonminority female	0.00	11.37	0.00****
M/WBE total	0.00	27.66	0.00****
Warehousing and Storage (NAICS 4931)			
African American	0.00	10.26	0.00****
Hispanic	0.00	3.17	0.00****
Asian	0.00	4.54	0.00****
Native American	0.00	0.76	0.00****
Minority	0.00	18.73	0.00****
Nonminority female	100.00	13.91	
M/WBE total	100.00	32.64	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)			
African American	0.00	11.19	0.00****
Hispanic	0.00	0.00	
Asian	0.00	1.89	0.00**
Native American	0.00	0.00	
Minority	0.00	13.07	0.00****
Nonminority female	0.00	16.24	0.00****
M/WBE total	0.00	29.31	0.00****
Aerospace Product and Parts Manufacturing (NAICS 3364)			
African American	0.00	2.64	0.00***
Hispanic	0.00	0.02	0.00
Asian	0.00	0.03	0.00
Native American	0.00	0.07	0.00
Minority	0.00	2.76	0.00***
Nonminority female	0.00	0.80	0.00
M/WBE total	0.00	3.56	0.00****
Direct Selling Establishments (NAICS 4543)			
African American	0.00	2.43	0.00****
Hispanic	0.00	0.82	0.00
Asian	0.00	0.83	0.00
Native American	0.00	0.01	0.00
Minority	0.00	4.08	0.00****
Nonminority female	0.00	8.60	0.00****
M/WBE total	0.00	12.68	0.00****

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.7. Industry Group Utilization, Availability, and Disparity Results for State of Maryland IT Contracting (Dollars Awarded)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Computer Systems Design and Related Services (NAICS 5415)			
African American	3.23	17.55	18.40****
Hispanic	12.92	2.95	
Asian	19.08	14.21	
Native American	0.00	1.45	0.00****
Minority	35.24	36.16	97.45
Nonminority female	5.45	11.58	47.03
M/WBE total	40.68	47.74	85.22
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.01	6.82	0.15****
Hispanic	0.00	1.00	0.00****
Asian	0.02	4.65	0.37****
Native American	0.00	0.01	0.00
Minority	0.03	12.49	0.22****
Nonminority female	0.00	5.96	0.00****
M/WBE total	0.03	18.44	0.15****
Software Publishers (NAICS 5112)			
African American	13.97	11.92	
Hispanic	0.00	3.54	0.00****
Asian	1.68	8.00	20.93
Native American	0.00	0.28	0.00****
Minority	15.65	23.74	65.91
Nonminority female	13.34	13.22	
M/WBE total	28.99	36.96	78.42
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	4.68	10.53	44.39****
Hispanic	0.00	1.55	0.00****
Asian	65.76	6.15	
Native American	1.64	0.88	
Minority	72.07	19.11	
Nonminority female	5.90	9.50	62.11
M/WBE total	77.97	28.61	
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.00	4.06	0.00****
Hispanic	0.00	4.06	0.00****
Asian	0.00	4.48	0.00****
Native American	0.00	0.05	0.00
Minority	0.00	12.65	0.00****
Nonminority female	0.37	10.02	3.73****
M/WBE total	0.37	22.68	1.65****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	8.86	14.33	61.82
Hispanic	0.00	2.70	0.00****
Asian	26.62	5.94	
Native American	0.00	1.04	0.00****
Minority	35.48	24.01	
Nonminority female	3.47	18.83	18.40****
M/WBE total	38.95	42.85	90.90
Employment Services (NAICS 5613)			
African American	11.23	12.43	90.37
Hispanic	0.00	2.40	0.00****
Asian	27.90	4.61	
Native American	0.00	0.28	0.00****
Minority	39.13	19.72	
Nonminority female	7.15	14.63	48.87
M/WBE total	46.28	34.36	
Nonresidential Building Construction (NAICS 2362)			
African American	20.27	12.17	
Hispanic	0.07	6.74	1.03****
Asian	0.00	4.46	0.00****
Native American	0.00	2.09	0.00****
Minority	20.34	25.46	79.88
Nonminority female	0.00	10.01	0.00****
M/WBE total	20.34	35.47	57.34****
Advertising, Public Relations, and Related Services (NAICS 5418)			
African American	0.00	7.68	0.00****
Hispanic	0.00	4.62	0.00****
Asian	0.00	1.70	0.00****
Native American	0.00	0.34	0.00****
Minority	0.00	14.33	0.00****
Nonminority female	99.06	26.75	
M/WBE total	99.06	41.08	
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	3.94	6.29	62.65*
Hispanic	4.27	1.93	
Asian	0.00	4.00	0.00****
Native American	0.00	1.28	0.00****
Minority	8.21	13.50	60.85****
Nonminority female	6.19	10.08	61.39***
M/WBE total	14.40	23.57	61.09****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Utility System Construction (NAICS 2371)			
African American	0.05	10.23	0.54****
Hispanic	0.24	2.27	10.40
Asian	93.39	2.41	
Native American	0.00	0.51	0.00****
Minority	93.68	15.41	
Nonminority female	0.21	8.48	2.46****
M/WBE total	93.89	23.89	
Business Support Services (NAICS 5614)			
African American	0.00	12.36	0.00****
Hispanic	3.08	0.10	
Asian	0.00	0.12	0.00
Native American	0.00	0.02	0.00
Minority	3.08	12.60	24.47
Nonminority female	0.00	12.45	0.00****
M/WBE total	3.08	25.04	12.31
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)			
African American	50.48	9.83	
Hispanic	5.57	8.13	68.47***
Asian	0.00	1.81	0.00****
Native American	0.00	0.10	0.00****
Minority	56.05	19.88	
Nonminority female	0.00	6.74	0.00****
M/WBE total	56.05	26.61	
Computer and Peripheral Equipment Manufacturing (NAICS 3341)			
African American	0.00	13.60	0.00****
Hispanic	0.00	3.53	0.00****
Asian	0.00	6.14	0.00****
Native American	0.00	0.96	0.00****
Minority	0.00	24.24	0.00****
Nonminority female	0.00	16.46	0.00****
M/WBE total	0.00	40.69	0.00****
Scientific Research and Development Services (NAICS 5417)			
African American	0.00	4.78	0.00****
Hispanic	0.00	0.89	0.00****
Asian	0.00	5.29	0.00****
Native American	0.00	2.80	0.00****
Minority	0.00	13.77	0.00****
Nonminority female	0.00	5.71	0.00****
M/WBE total	0.00	19.48	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Wired Telecommunications Carriers (NAICS 5171)			
African American	98.27	14.59	
Hispanic	0.00	0.20	0.00
Asian	0.00	2.02	0.00****
Native American	0.00	0.05	0.00
Minority	98.27	16.86	
Nonminority female	0.00	6.34	0.00****
M/WBE total	98.27	23.20	
Other Ambulatory Health Care Services (NAICS 6219)			
African American	0.00	13.34	0.00****
Hispanic	0.00	3.93	0.00****
Asian	99.16	7.38	
Native American	0.00	0.65	0.00
Minority	99.16	25.30	
Nonminority female	0.00	17.53	0.00****
M/WBE total	99.16	42.83	
Other Telecommunications (NAICS 5179)			
African American	0.00	4.61	0.00****
Hispanic	0.00	2.56	0.00**
Asian	0.00	1.77	0.00**
Native American	0.00	0.43	0.00
Minority	0.00	9.38	0.00****
Nonminority female	0.00	3.00	0.00**
M/WBE total	0.00	12.38	0.00****
Data Processing, Hosting, and Related Services (NAICS 5182)			
African American	0.00	21.33	0.00****
Hispanic	0.00	1.91	0.00****
Asian	49.72	5.77	
Native American	0.00	0.14	0.00
Minority	49.72	29.16	
Nonminority female	41.54	15.34	
M/WBE total	91.27	44.50	
Educational Support Services (NAICS 6117)			
African American	0.00	25.75	0.00****
Hispanic	0.00	0.71	0.00
Asian	0.00	3.31	0.00****
Native American	0.00	2.37	0.00
Minority	0.00	32.14	0.00****
Nonminority female	0.00	10.40	0.00****
M/WBE total	0.00	42.54	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Electronics and Appliance Stores (NAICS 4431)			
African American	0.00	10.01	0.00****
Hispanic	1.19	0.31	
Asian	9.89	3.00	
Native American	0.00	0.29	0.00
Minority	11.08	13.62	81.36
Nonminority female	9.32	15.37	60.60
M/WBE total	20.39	28.99	70.35
Building Finishing Contractors (NAICS 2383)			
African American	0.00	3.32	0.00****
Hispanic	0.00	8.87	0.00****
Asian	0.00	1.91	0.00****
Native American	0.00	0.05	0.00****
Minority	0.00	14.16	0.00****
Nonminority female	0.00	14.38	0.00****
M/WBE total	0.00	28.54	0.00****
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)			
African American	0.00	2.20	0.00****
Hispanic	0.00	0.39	0.00****
Asian	0.00	0.51	0.00****
Native American	0.00	0.08	0.00
Minority	0.00	3.18	0.00****
Nonminority female	0.00	16.21	0.00****
M/WBE total	0.00	19.40	0.00****
Other Specialty Trade Contractors (NAICS 2389)			
African American	0.00	6.37	0.00****
Hispanic	0.00	1.28	0.00****
Asian	0.00	3.21	0.00****
Native American	0.00	4.14	0.00****
Minority	0.00	15.01	0.00****
Nonminority female	7.29	11.20	65.11
M/WBE total	7.29	26.21	27.81****
Printing and Related Support Activities (NAICS 3231)			
African American	86.79	4.82	
Hispanic	0.00	1.60	0.00****
Asian	0.00	5.27	0.00****
Native American	0.00	0.98	0.00****
Minority	86.79	12.67	
Nonminority female	0.02	17.92	0.08****
M/WBE total	86.81	30.59	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Building Equipment Contractors (NAICS 2382)			
African American	7.15	13.07	54.75****
Hispanic	0.00	6.81	0.00****
Asian	3.85	1.73	
Native American	0.00	1.31	0.00****
Minority	11.01	22.90	48.06****
Nonminority female	0.00	12.66	0.00****
M/WBE total	11.01	35.56	30.95****
Architectural and Structural Metals Manufacturing (NAICS 3323)			
African American	0.00	7.09	0.00****
Hispanic	0.00	0.04	0.00
Asian	0.00	0.08	0.00
Native American	0.00	0.04	0.00
Minority	0.00	7.25	0.00****
Nonminority female	0.00	15.98	0.00****
M/WBE total	0.00	23.23	0.00****
Specialized Design Services (NAICS 5414)			
African American	73.51	15.06	
Hispanic	0.00	3.76	0.00****
Asian	0.00	4.93	0.00****
Native American	0.00	1.27	0.00****
Minority	73.51	25.01	
Nonminority female	0.00	24.71	0.00****
M/WBE total	73.51	49.73	
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00****
Hispanic	29.80	1.99	
Asian	0.00	3.41	0.00****
Native American	0.00	0.45	0.00****
Minority	29.80	14.61	
Nonminority female	0.00	10.28	0.00****
M/WBE total	29.80	24.89	
Services to Buildings and Dwellings (NAICS 5617)			
African American	0.55	16.65	3.31****
Hispanic	0.00	2.83	0.00****
Asian	0.00	2.56	0.00****
Native American	0.00	2.41	0.00****
Minority	0.55	24.45	2.26****
Nonminority female	0.00	11.31	0.00****
M/WBE total	0.55	35.76	1.54****

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.8. Industry Group Utilization, Availability, and Disparity Results for State of Maryland IT Contracting (Dollars Paid)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Computer Systems Design and Related Services (NAICS 5415)			
African American	5.27	16.72	31.53****
Hispanic	19.10	3.31	
Asian	12.97	14.64	88.60
Native American	0.00	1.34	0.00****
Minority	37.34	36.01	
Nonminority female	5.59	12.03	46.47*
M/WBE total	42.93	48.04	89.37
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	6.16	10.53	58.47**
Hispanic	0.00	1.57	0.00****
Asian	75.97	6.21	
Native American	0.00	0.90	0.00****
Minority	82.13	19.21	
Nonminority female	5.27	9.16	57.55**
M/WBE total	87.40	28.37	
Software Publishers (NAICS 5112)			
African American	1.43	11.92	11.99****
Hispanic	0.00	3.54	0.00****
Asian	2.14	8.00	26.67*
Native American	0.00	0.28	0.00***
Minority	3.56	23.74	15.01****
Nonminority female	0.08	13.22	0.58****
M/WBE total	3.64	36.96	9.85****
Employment Services (NAICS 5613)			
African American	13.07	14.58	89.63
Hispanic	0.00	2.37	0.00****
Asian	15.62	5.47	
Native American	0.00	0.44	0.00****
Minority	28.69	22.87	
Nonminority female	2.67	16.21	16.49****
M/WBE total	31.36	39.07	80.27
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	10.58	16.61	63.66
Hispanic	0.00	2.83	0.00****
Asian	17.21	6.30	
Native American	0.00	0.65	0.00****
Minority	27.79	26.40	
Nonminority female	6.89	18.39	37.45***
M/WBE total	34.68	44.78	77.43

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Nonresidential Building Construction (NAICS 2362)			
African American	0.00	12.17	0.00****
Hispanic	0.12	6.74	1.78****
Asian	0.00	4.46	0.00****
Native American	0.00	2.09	0.00****
Minority	0.12	25.46	0.47****
Nonminority female	0.00	10.01	0.00****
M/WBE total	0.12	35.47	0.34****
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)			
African American	50.48	9.21	
Hispanic	5.57	7.62	73.06
Asian	0.00	1.72	0.00****
Native American	0.00	0.20	0.00****
Minority	56.05	18.75	
Nonminority female	0.00	6.95	0.00****
M/WBE total	56.05	25.70	
Scientific Research and Development Services (NAICS 5417)			
African American	0.00	4.78	0.00****
Hispanic	0.00	0.89	0.00*
Asian	0.00	5.29	0.00****
Native American	0.00	2.80	0.00****
Minority	0.00	13.77	0.00****
Nonminority female	0.00	5.71	0.00****
M/WBE total	0.00	19.48	0.00****
Computer and Peripheral Equipment Manufacturing (NAICS 3341)			
African American	0.00	13.70	0.00****
Hispanic	0.00	3.59	0.00****
Asian	0.00	6.17	0.00****
Native American	0.00	0.95	0.00****
Minority	0.00	24.42	0.00****
Nonminority female	0.00	16.54	0.00****
M/WBE total	0.00	40.96	0.00****
Other Ambulatory Health Care Services (NAICS 6219)			
African American	0.00	13.34	0.00****
Hispanic	0.00	3.93	0.00
Asian	99.16	7.38	
Native American	0.00	0.65	0.00
Minority	99.16	25.30	
Nonminority female	0.00	17.53	0.00****
M/WBE total	99.16	42.83	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.00	4.15	0.00****
Hispanic	0.00	3.23	0.00****
Asian	0.00	3.85	0.00****
Native American	0.00	0.30	0.00****
Minority	0.00	11.52	0.00****
Nonminority female	3.06	9.64	31.74****
M/WBE total	3.06	21.16	14.46****
Data Processing, Hosting, and Related Services (NAICS 5182)			
African American	0.00	21.33	0.00****
Hispanic	0.00	1.91	0.00**
Asian	51.23	5.77	
Native American	0.00	0.14	0.00
Minority	51.23	29.16	
Nonminority female	44.06	15.34	
M/WBE total	95.29	44.50	
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	9.47	8.05	
Hispanic	16.04	2.12	
Asian	0.00	4.98	0.00****
Native American	0.00	1.23	0.00****
Minority	25.51	16.38	
Nonminority female	21.30	11.43	
M/WBE total	46.81	27.81	
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.00	6.97	0.00****
Hispanic	0.00	1.03	0.00****
Asian	1.07	4.75	22.61
Native American	0.00	0.01	0.00
Minority	1.07	12.77	8.42****
Nonminority female	0.00	5.59	0.00****
M/WBE total	1.07	18.36	5.85****
Building Finishing Contractors (NAICS 2383)			
African American	0.00	2.79	0.00****
Hispanic	0.00	9.38	0.00****
Asian	0.00	1.57	0.00****
Native American	0.00	0.34	0.00****
Minority	0.00	14.09	0.00****
Nonminority female	0.00	13.98	0.00****
M/WBE total	0.00	28.07	0.00****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Electronics and Appliance Stores (NAICS 4431)			
African American	0.00	10.01	0.00****
Hispanic	1.33	0.31	
Asian	0.00	3.00	0.00****
Native American	0.00	0.29	0.00
Minority	1.33	13.62	9.79****
Nonminority female	10.45	15.37	67.97
M/WBE total	11.78	28.99	40.64**
Other Specialty Trade Contractors (NAICS 2389)			
African American	0.00	6.37	0.00****
Hispanic	0.00	1.28	0.00****
Asian	0.00	3.21	0.00****
Native American	0.00	4.14	0.00****
Minority	0.00	15.01	0.00****
Nonminority female	0.45	11.20	3.99****
M/WBE total	0.45	26.21	1.71****
Architectural and Structural Metals Manufacturing (NAICS 3323)			
African American	0.00	7.09	0.00****
Hispanic	0.00	0.04	0.00
Asian	0.00	0.08	0.00
Native American	0.00	0.04	0.00
Minority	0.00	7.25	0.00****
Nonminority female	0.00	15.98	0.00****
M/WBE total	0.00	23.23	0.00****
Printing and Related Support Activities (NAICS 3231)			
African American	97.37	4.82	
Hispanic	0.00	1.60	0.00****
Asian	0.00	5.27	0.00****
Native American	0.00	0.98	0.00****
Minority	97.37	12.67	
Nonminority female	0.00	17.92	0.00****
M/WBE total	97.37	30.59	
Building Equipment Contractors (NAICS 2382)			
African American	12.05	11.02	
Hispanic	0.00	5.78	0.00****
Asian	5.19	1.64	
Native American	0.00	0.98	0.00****
Minority	17.24	19.42	88.78
Nonminority female	0.00	12.52	0.00****
M/WBE total	17.24	31.95	53.98****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Specialized Design Services (NAICS 5414)			
African American	73.51	15.06	
Hispanic	0.00	3.76	0.00****
Asian	0.00	4.93	0.00****
Native American	0.00	1.27	0.00***
Minority	73.51	25.01	
Nonminority female	0.00	24.71	0.00****
M/WBE total	73.51	49.73	
Services to Buildings and Dwellings (NAICS 5617)			
African American	0.55	16.65	3.32****
Hispanic	0.00	2.83	0.00****
Asian	0.00	2.56	0.00****
Native American	0.00	2.41	0.00****
Minority	0.55	24.45	2.26****
Nonminority female	0.00	11.31	0.00****
M/WBE total	0.55	35.76	1.54****
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)			
African American	0.00	5.26	0.00****
Hispanic	0.00	0.98	0.00****
Asian	6.41	6.38	
Native American	0.00	0.29	0.00****
Minority	6.41	12.91	49.65****
Nonminority female	0.29	10.15	2.82****
M/WBE total	6.70	23.07	29.04****
Other Telecommunications (NAICS 5179)			
African American	0.00	4.61	0.00****
Hispanic	0.00	2.56	0.00**
Asian	0.00	1.77	0.00**
Native American	0.00	0.43	0.00
Minority	0.00	9.38	0.00****
Nonminority female	0.00	3.00	0.00**
M/WBE total	0.00	12.38	0.00****
Utility System Construction (NAICS 2371)			
African American	0.98	10.23	9.55****
Hispanic	4.20	2.27	
Asian	0.00	2.41	0.00****
Native American	0.00	0.51	0.00**
Minority	5.18	15.41	33.61*
Nonminority female	3.70	8.48	43.66
M/WBE total	8.88	23.89	37.18**

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00****
Hispanic	0.00	1.99	0.00****
Asian	0.00	3.41	0.00****
Native American	0.00	0.45	0.00****
Minority	0.00	14.61	0.00****
Nonminority female	0.00	10.28	0.00****
M/WBE total	0.00	24.89	0.00****
Business Support Services (NAICS 5614)			
African American	0.00	12.36	0.00****
Hispanic	95.70	0.10	
Asian	0.00	0.12	0.00
Native American	0.00	0.02	0.00
Minority	95.70	12.60	
Nonminority female	0.00	12.45	0.00****
M/WBE total	95.70	25.04	
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)			
African American	0.00	6.22	0.00****
Hispanic	0.00	2.39	0.00****
Asian	0.00	0.86	0.00****
Native American	0.00	0.79	0.00****
Minority	0.00	10.27	0.00****
Nonminority female	0.00	4.74	0.00****
M/WBE total	0.00	15.01	0.00****
Home Furnishings Stores (NAICS 4422)			
African American	0.00	0.94	0.00**
Hispanic	0.00	9.73	0.00****
Asian	0.00	7.22	0.00****
Native American	0.00	0.01	0.00
Minority	0.00	17.90	0.00****
Nonminority female	0.00	10.14	0.00****
M/WBE total	0.00	28.04	0.00****
Other Wood Product Manufacturing (NAICS 3219)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	0.00	
M/WBE total	0.00	0.00	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)			
African American	0.00	13.46	0.00****
Hispanic	0.00	0.00	
Asian	0.00	8.12	0.00****
Native American	0.00	0.00	
Minority	0.00	21.58	0.00****
Nonminority female	0.00	15.81	0.00****
M/WBE total	0.00	37.39	0.00****
Other Professional, Scientific, and Technical Services (NAICS 5419)			
African American	0.00	13.08	0.00****
Hispanic	0.00	3.87	0.00****
Asian	50.08	5.22	
Native American	0.00	0.96	0.00****
Minority	50.08	23.13	
Nonminority female	0.00	17.87	0.00****
M/WBE total	50.08	41.00	
Electric Lighting Equipment Manufacturing (NAICS 3351)			
African American	0.00	6.12	0.00****
Hispanic	0.00	0.11	0.00
Asian	0.00	0.23	0.00***
Native American	0.00	3.52	0.00****
Minority	0.00	9.99	0.00****
Nonminority female	1.90	17.36	10.97****
M/WBE total	1.90	27.34	6.97****

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.9. Industry Group Utilization, Availability, and Disparity Results for State of Maryland Services Contracting (Dollars Awarded)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Electric Power Generation, Transmission and Distribution (NAICS 2211)			
African American	0.00	1.22	0.00 ****
Hispanic	0.00	0.01	0.00
Asian	0.00	1.80	0.00 ****
Native American	0.00	1.11	0.00 ****
Minority	0.00	4.14	0.00 ****
Nonminority female	0.00	8.17	0.00 ****
M/WBE total	0.00	12.31	0.00 ****
Other Ambulatory Health Care Services (NAICS 6219)			
African American	0.01	13.34	0.04 ****
Hispanic	0.00	3.93	0.00 ****
Asian	0.46	7.38	6.27
Native American	0.00	0.65	0.00
Minority	0.47	25.30	1.85 **
Nonminority female	0.00	17.53	0.00 ****
M/WBE total	0.47	42.83	1.09 ****
Office Administrative Services (NAICS 5611)			
African American	0.00	12.78	0.00 ****
Hispanic	0.00	2.34	0.00 ****
Asian	0.00	2.67	0.00 ****
Native American	0.00	0.81	0.00
Minority	0.00	18.60	0.00 ****
Nonminority female	0.00	19.74	0.00 ****
M/WBE total	0.00	38.34	0.00 ****
Other Miscellaneous Manufacturing (NAICS 3399)			
African American	0.00	21.79	0.00 ****
Hispanic	0.00	5.95	0.00 ****
Asian	0.00	1.10	0.00 ****
Native American	0.00	0.00	
Minority	0.00	28.85	0.00 ****
Nonminority female	0.00	16.94	0.01 ****
M/WBE total	0.00	45.79	0.00 ****
Advertising, Public Relations, and Related Services (NAICS 5418)			
African American	2.10	8.06	26.08 *
Hispanic	1.22	3.08	39.49
Asian	0.26	1.44	17.90
Native American	0.00	0.60	0.13 ****
Minority	3.58	13.18	27.15 **
Nonminority female	9.40	25.75	36.51 ***
M/WBE total	12.98	38.92	33.34 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Urban Transit Systems (NAICS 4851)			
African American	0.00	42.42	0.00 ****
Hispanic	0.00	4.79	0.00 ****
Asian	0.00	10.65	0.00 ****
Native American	0.00	0.12	0.00
Minority	0.00	57.97	0.00 ****
Nonminority female	0.00	5.04	0.00 ****
M/WBE total	0.00	63.02	0.00 ****
Rail Transportation (NAICS 4821)			
African American	0.00	0.65	0.00
Hispanic	0.00	0.14	0.00
Asian	0.00	0.20	0.00
Native American	0.00	0.08	0.00
Minority	0.00	1.06	0.00
Nonminority female	0.00	1.69	0.00 ****
M/WBE total	0.00	2.74	0.00 ****
Other Residential Care Facilities (NAICS 6239)			
African American	0.51	13.45	3.82 ****
Hispanic	0.00	0.69	0.00
Asian	0.00	0.70	0.00
Native American	0.00	0.03	0.00
Minority	0.51	14.86	3.46 ****
Nonminority female	0.00	10.36	0.00 ****
M/WBE total	0.51	25.22	2.04 ****
Other Transit and Ground Passenger Transportation (NAICS 4859)			
African American	28.24	29.55	95.57
Hispanic	0.00	4.35	0.00 ****
Asian	2.41	3.85	62.72
Native American	0.00	0.80	0.00
Minority	30.66	38.55	79.53
Nonminority female	0.00	14.10	0.00 ****
M/WBE total	30.66	52.65	58.23
Insurance Carriers (NAICS 5241)			
African American	0.00	5.75	0.00 ****
Hispanic	0.00	1.57	0.00 ****
Asian	0.00	0.10	0.00
Native American	0.00	1.39	0.00 ****
Minority	0.00	8.81	0.00 ****
Nonminority female	0.00	1.62	0.00 ****
M/WBE total	0.00	10.43	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	2.87	13.69	20.96 ****
Hispanic	0.49	2.46	20.07 ***
Asian	0.89	5.22	16.97 ****
Native American	0.00	0.93	0.00 ****
Minority	4.25	22.30	19.05 ****
Nonminority female	11.65	16.81	69.28
M/WBE total	15.90	39.11	40.64 ****
Business Support Services (NAICS 5614)			
African American	1.16	17.29	6.68 **
Hispanic	1.11	3.83	28.89
Asian	0.00	3.25	0.00 ****
Native American	0.00	3.96	0.00 ****
Minority	2.26	28.34	7.98 ***
Nonminority female	0.47	14.73	3.22 ***
M/WBE total	2.74	43.07	6.35 ****
Computer Systems Design and Related Services (NAICS 5415)			
African American	18.35	16.82	
Hispanic	8.13	3.26	
Asian	8.78	14.14	62.09
Native American	0.04	1.18	3.53 ****
Minority	35.30	35.41	99.71
Nonminority female	3.45	12.66	27.25 ****
M/WBE total	38.75	48.07	80.63
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	1.20	7.07	17.00 ****
Hispanic	0.10	1.94	5.11 ****
Asian	1.64	5.15	31.91 ****
Native American	0.03	1.41	2.47 ****
Minority	2.98	15.58	19.13 ****
Nonminority female	21.01	10.28	
M/WBE total	23.99	25.86	92.77
Offices of Dentists (NAICS 6212)			
African American	99.57	6.41	
Hispanic	0.00	2.30	0.00
Asian	0.00	10.10	0.00 ****
Native American	0.00	1.80	0.00
Minority	99.57	20.61	
Nonminority female	0.00	17.54	0.00 ****
M/WBE total	99.57	38.15	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Employment Services (NAICS 5613)			
African American	37.27	14.90	
Hispanic	0.00	2.37	0.00 ****
Asian	0.00	5.60	0.00 ****
Native American	0.06	0.47	12.82
Minority	37.33	23.33	
Nonminority female	49.47	16.44	
M/WBE total	86.80	39.78	
Special Food Services (NAICS 7223)			
African American	52.81	16.39	
Hispanic	0.00	0.43	0.00 ****
Asian	0.00	3.94	0.00 ****
Native American	0.00	0.11	0.00
Minority	52.81	20.87	
Nonminority female	1.56	2.02	77.24
M/WBE total	54.37	22.89	
Individual and Family Services (NAICS 6241)			
African American	51.84	9.52	
Hispanic	0.00	0.64	0.00
Asian	0.00	2.46	0.00 ****
Native American	0.00	1.82	0.00
Minority	51.84	14.43	
Nonminority female	0.04	11.27	0.36 **
M/WBE total	51.89	25.71	
Natural Gas Distribution (NAICS 2212)			
African American	0.00	5.63	0.00 ****
Hispanic	0.00	0.00	
Asian	0.00	4.87	0.00 ****
Native American	0.00	0.00	
Minority	0.00	10.50	0.00 ****
Nonminority female	0.00	0.00	
M/WBE total	0.00	10.50	0.00 ****
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.00	6.97	0.00 ****
Hispanic	0.00	1.03	0.00 ****
Asian	0.00	4.75	0.00 ****
Native American	0.00	0.01	0.00
Minority	0.00	12.77	0.00 ****
Nonminority female	0.00	5.59	0.00 ****
M/WBE total	0.00	18.36	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Grocery and Related Product Merchant Wholesalers (NAICS 4244)			
African American	13.37	8.73	
Hispanic	9.89	5.41	
Asian	2.98	4.34	68.67
Native American	0.00	1.20	0.00 ****
Minority	26.25	19.68	
Nonminority female	0.23	16.25	1.43 ****
M/WBE total	26.48	35.93	73.70
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)			
African American	57.03	8.55	
Hispanic	0.00	0.23	0.00 ****
Asian	0.00	5.55	0.00 ****
Native American	0.00	0.12	0.00
Minority	57.03	14.44	
Nonminority female	0.00	11.32	0.00 ****
M/WBE total	57.03	25.76	
Drugs and Druggists' Sundries Merchant Wholesalers (NAICS 4242)			
African American	0.00	8.89	0.00 ****
Hispanic	0.00	3.31	0.00 ****
Asian	0.00	7.70	0.00 ****
Native American	0.00	0.02	0.00
Minority	0.00	19.91	0.00 ****
Nonminority female	0.00	14.10	0.00 ****
M/WBE total	0.00	34.00	0.00 ****
Printing and Related Support Activities (NAICS 3231)			
African American	0.07	4.82	1.46 ****
Hispanic	0.00	1.60	0.00 ****
Asian	0.11	5.27	2.06 ****
Native American	0.00	0.98	0.00 ****
Minority	0.18	12.67	1.41 ****
Nonminority female	45.26	17.92	
M/WBE total	45.44	30.59	
Other Information Services (NAICS 5191)			
African American	0.00	12.97	0.00 ****
Hispanic	0.00	0.73	0.00 ****
Asian	0.00	7.46	0.00 ****
Native American	0.00	6.67	0.00 ****
Minority	0.00	27.82	0.00 ****
Nonminority female	0.00	11.06	0.00 ****
M/WBE total	0.00	38.88	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Radio and Television Broadcasting (NAICS 5151)			
African American	0.00	5.39	0.00 ****
Hispanic	0.00	0.13	0.00
Asian	0.00	1.69	0.00 ****
Native American	0.00	2.13	0.00 ****
Minority	0.00	9.34	0.00 ****
Nonminority female	0.90	2.21	40.80
M/WBE total	0.90	11.55	7.79 ****
Taxi and Limousine Service (NAICS 4853)			
African American	0.14	22.66	0.61 ****
Hispanic	0.00	4.26	0.00 ****
Asian	28.22	11.86	
Native American	0.00	1.63	0.00
Minority	28.36	40.41	70.19
Nonminority female	1.33	8.65	15.39
M/WBE total	29.69	49.06	60.53
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)			
African American	4.91	4.42	
Hispanic	0.00	0.39	0.00 ****
Asian	0.00	0.70	0.00 ****
Native American	0.00	0.04	0.00
Minority	4.91	5.54	88.48
Nonminority female	0.80	14.11	5.63 ****
M/WBE total	5.70	19.66	29.00
Direct Selling Establishments (NAICS 4543)			
African American	99.36	2.43	
Hispanic	0.00	0.82	0.00 ****
Asian	0.00	0.83	0.00 ****
Native American	0.00	0.01	0.00
Minority	99.36	4.08	
Nonminority female	0.00	8.60	0.00 ****
M/WBE total	99.36	12.68	
Water, Sewage and Other Systems (NAICS 2213)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	50.00	0.00 ****
M/WBE total	0.00	50.00	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Railroad Rolling Stock Manufacturing (NAICS 3365)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.52	0.00	
Minority	0.52	0.00	
Nonminority female	15.66	0.00	
M/WBE total	16.18	0.00	
Services to Buildings and Dwellings (NAICS 5617)			
African American	17.50	27.20	64.33 ****
Hispanic	9.55	9.96	95.84
Asian	0.69	4.17	16.44 ****
Native American	0.00	0.48	0.00 ****
Minority	27.73	41.81	66.32 ****
Nonminority female	12.08	13.86	87.16
M/WBE total	39.81	55.67	71.51 ****
Facilities Support Services (NAICS 5612)			
African American	0.00	26.39	0.00 ****
Hispanic	0.00	3.77	0.00 ****
Asian	0.14	2.52	5.44
Native American	0.00	1.15	0.00 ****
Minority	0.14	33.83	0.41 ****
Nonminority female	11.23	9.10	
M/WBE total	11.36	42.92	26.47
Building Equipment Contractors (NAICS 2382)			
African American	43.56	11.91	
Hispanic	25.71	6.22	
Asian	0.00	1.68	0.00 ****
Native American	0.00	1.12	0.00 ****
Minority	69.27	20.93	
Nonminority female	1.08	12.58	8.56 ****
M/WBE total	70.35	33.51	
Other Personal Services (NAICS 8129)			
African American	0.00	4.15	0.00 ****
Hispanic	0.00	0.96	0.00
Asian	0.00	0.50	0.00
Native American	0.00	0.01	0.00
Minority	0.00	5.62	0.00 ****
Nonminority female	43.73	2.61	
M/WBE total	43.73	8.24	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Accounting, Tax Preparation, Bookkeeping, and Payroll Services (NAICS 5412)			
African American	11.47	13.66	83.95
Hispanic	0.00	0.96	0.00
Asian	0.00	1.41	0.00 ****
Native American	0.00	1.92	0.00 ****
Minority	11.47	17.96	63.87
Nonminority female	4.72	24.85	18.98
M/WBE total	16.19	42.80	37.81
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	0.01	0.00
Hispanic	0.00	4.85	0.00 ****
Asian	0.00	0.06	0.00
Native American	0.17	0.00	
Minority	0.17	4.92	3.48 ****
Nonminority female	0.00	16.04	0.00 ****
M/WBE total	0.17	20.96	0.82 ****
Wireless Telecommunications Carriers (except Satellite) (NAICS 5172)			
African American	0.57	9.50	5.96 ****
Hispanic	0.00	3.00	0.00 ****
Asian	0.00	4.55	0.00 ****
Native American	0.00	0.68	0.00 ****
Minority	0.57	17.74	3.19 ****
Nonminority female	0.00	12.18	0.00 ****
M/WBE total	0.57	29.92	1.89 ****
Travel Arrangement and Reservation Services (NAICS 5615)			
African American	0.00	8.13	0.00 ****
Hispanic	0.00	0.00	
Asian	0.62	2.03	30.67
Native American	0.00	2.03	0.00
Minority	0.62	12.20	5.11
Nonminority female	0.00	7.10	0.00 ****
M/WBE total	0.62	19.30	3.23
Outpatient Care Centers (NAICS 6214)			
African American	34.35	4.10	
Hispanic	0.00	0.67	0.00
Asian	0.18	0.64	28.76
Native American	0.00	0.71	0.00
Minority	34.54	6.12	
Nonminority female	52.15	7.67	
M/WBE total	86.68	13.79	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Telecommunications (NAICS 5179)			
African American	0.00	4.61	0.00 ****
Hispanic	0.00	2.56	0.00 ***
Asian	0.00	1.77	0.00 ***
Native American	0.00	0.43	0.00
Minority	0.00	9.38	0.00 ****
Nonminority female	0.05	3.00	1.78
M/WBE total	0.05	12.38	0.43 ****
Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities (NAICS 6232)			
African American	31.65	20.85	
Hispanic	0.00	0.02	0.00
Asian	0.00	4.87	0.00
Native American	0.00	0.00	0.00
Minority	31.65	25.73	
Nonminority female	0.00	10.89	0.00
M/WBE total	31.65	36.62	86.42
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)			
African American	20.26	1.73	
Hispanic	0.00	0.68	0.00 ****
Asian	0.00	1.09	0.00 ****
Native American	0.00	0.68	0.00 ****
Minority	20.26	4.19	
Nonminority female	0.35	14.01	2.50 ****
M/WBE total	20.61	18.19	
Other Professional, Scientific, and Technical Services (NAICS 5419)			
African American	15.13	2.24	
Hispanic	55.16	15.73	
Asian	4.32	4.23	
Native American	0.00	2.66	0.00 ****
Minority	74.61	24.87	
Nonminority female	6.91	29.19	23.69 ****
M/WBE total	81.52	54.06	
Investigation and Security Services (NAICS 5616)			
African American	4.93	20.42	24.16 ***
Hispanic	0.00	1.88	0.00 ****
Asian	0.00	2.44	0.00 ****
Native American	0.00	1.88	0.00 ****
Minority	4.93	26.62	18.53 ****
Nonminority female	0.59	11.94	4.92 ****
M/WBE total	5.52	38.56	14.32 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Legal Services (NAICS 5411)			
African American	10.67	5.16	
Hispanic	0.00	3.53	0.00 ****
Asian	0.00	0.26	0.00
Native American	0.00	0.04	0.00
Minority	10.67	9.00	
Nonminority female	17.00	21.42	79.38
M/WBE total	27.67	30.42	90.96
Lessors of Real Estate (NAICS 5311)			
African American	0.00	2.99	0.00 ****
Hispanic	0.00	0.15	0.00
Asian	0.00	1.89	0.00 ****
Native American	0.00	0.03	0.00
Minority	0.00	5.06	0.00 ****
Nonminority female	4.47	14.43	30.96
M/WBE total	4.47	19.48	22.92
Depository Credit Intermediation (NAICS 5221)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.00	0.00
Asian	0.00	0.42	0.00
Native American	0.00	0.00	0.00
Minority	0.00	0.61	0.00
Nonminority female	8.06	0.44	
M/WBE total	8.06	1.06	
Motion Picture and Video Industries (NAICS 5121)			
African American	19.37	14.52	
Hispanic	0.00	3.33	0.00 ****
Asian	0.00	2.18	0.00 ****
Native American	0.00	0.10	0.00
Minority	19.37	20.14	96.18
Nonminority female	51.94	25.68	
M/WBE total	71.31	45.82	
Charter Bus Industry (NAICS 4855)			
African American	0.00	29.84	0.00 ****
Hispanic	0.00	0.97	0.00
Asian	0.00	0.39	0.00
Native American	0.00	0.18	0.00
Minority	0.00	31.39	0.00 ****
Nonminority female	0.00	17.80	0.00 ****
M/WBE total	0.00	49.19	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Offices of Other Health Practitioners (NAICS 6213)			
African American	23.14	5.02	
Hispanic	0.00	1.31	0.00 ****
Asian	1.40	4.01	34.93
Native American	0.00	2.03	0.00 ****
Minority	24.54	12.37	
Nonminority female	3.80	21.09	18.02
M/WBE total	28.34	33.46	84.70
Interurban and Rural Bus Transportation (NAICS 4852)			
African American	0.00	20.62	0.00 ****
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	20.62	0.00 ****
Nonminority female	0.00	14.38	0.00 ****
M/WBE total	0.00	35.00	0.00 ****
Scientific Research and Development Services (NAICS 5417)			
African American	3.66	4.75	77.18
Hispanic	0.00	0.73	0.00 ****
Asian	0.28	4.52	6.15 ****
Native American	0.00	2.36	0.00 ****
Minority	3.94	12.35	31.92
Nonminority female	5.16	5.94	86.90
M/WBE total	9.10	18.29	49.78
Other Support Services (NAICS 5619)			
African American	4.02	18.71	21.47 ****
Hispanic	0.00	2.45	0.00 ****
Asian	0.00	2.57	0.00 ****
Native American	0.00	0.02	0.00
Minority	4.02	23.75	16.91 ****
Nonminority female	1.49	28.54	5.22 ****
M/WBE total	5.51	52.30	10.53 ****
Software Publishers (NAICS 5112)			
African American	0.01	11.92	0.05 ****
Hispanic	0.00	3.54	0.00 ****
Asian	78.55	8.00	
Native American	0.00	0.28	0.00 ****
Minority	78.55	23.74	
Nonminority female	0.00	13.22	0.00 ****
M/WBE total	78.55	36.96	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Specialized Freight Trucking (NAICS 4842)			
African American	4.43	24.84	17.85 ****
Hispanic	0.00	7.48	0.00 ****
Asian	0.00	1.87	0.00 ****
Native American	0.00	0.12	0.00 ****
Minority	4.43	34.32	12.92 ****
Nonminority female	2.03	11.65	17.44 ****
M/WBE total	6.46	45.97	14.06 ****
Home Health Care Services (NAICS 6216)			
African American	3.65	37.69	9.68 **
Hispanic	0.00	3.81	0.00
Asian	0.00	0.92	0.00
Native American	0.00	0.04	0.00
Minority	3.65	42.46	8.59 ***
Nonminority female	74.11	11.38	
M/WBE total	77.75	53.84	
Activities Related to Real Estate (NAICS 5313)			
African American	0.00	11.69	0.00 ****
Hispanic	0.00	4.81	0.00 ****
Asian	0.00	1.66	0.00
Native American	0.00	0.01	0.00
Minority	0.00	18.18	0.00 ****
Nonminority female	0.00	20.62	0.00 ****
M/WBE total	0.00	38.79	0.00 ****
Automotive Repair and Maintenance (NAICS 8111)			
African American	36.26	11.90	
Hispanic	2.91	7.57	38.40
Asian	0.00	4.57	0.00 ****
Native American	0.00	0.95	0.00 ****
Minority	39.17	24.99	
Nonminority female	0.04	8.85	0.41 ****
M/WBE total	39.20	33.84	
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)			
African American	5.08	6.80	74.75
Hispanic	0.02	1.35	1.56 ****
Asian	0.00	6.89	0.00 ****
Native American	0.00	1.03	0.00 ****
Minority	5.10	16.07	31.76 ****
Nonminority female	0.27	12.40	2.21 ****
M/WBE total	5.38	28.46	18.89 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Pharmaceutical and Medicine Manufacturing (NAICS 3254)			
African American	0.00	3.62	0.00 ****
Hispanic	0.00	0.87	0.00 ****
Asian	0.00	11.46	0.00 ****
Native American	0.00	4.33	0.00 ****
Minority	0.00	20.29	0.00 ****
Nonminority female	0.00	6.84	0.00 ****
M/WBE total	0.00	27.12	0.00 ****
Waste Treatment and Disposal (NAICS 5622)			
African American	0.00	8.77	0.00 ****
Hispanic	0.00	2.81	0.00 ****
Asian	7.59	0.97	
Native American	0.00	0.00	
Minority	7.59	12.54	60.54
Nonminority female	0.83	22.25	3.74 ****
M/WBE total	8.43	34.80	24.22 ****
Local Messengers and Local Delivery (NAICS 4922)			
African American	0.00	13.55	0.00 ****
Hispanic	0.00	3.26	0.00 ****
Asian	0.82	4.98	16.40
Native American	0.00	0.78	0.00
Minority	0.82	22.57	3.62 **
Nonminority female	0.00	15.17	0.00 ****
M/WBE total	0.82	37.75	2.16 ****
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)			
African American	0.00	0.93	0.00 ****
Hispanic	0.00	3.40	0.00 ****
Asian	0.00	2.39	0.00 ****
Native American	0.00	1.14	0.00 ****
Minority	0.00	7.86	0.00 ****
Nonminority female	0.13	6.68	1.87 ****
M/WBE total	0.13	14.55	0.86 ****
Gambling Industries (NAICS 7132)			
African American	0.00	15.62	0.00 ****
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	15.62	0.00 ****
Nonminority female	0.00	31.25	0.00 ****
M/WBE total	0.00	46.88	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Amusement and Recreation Industries (NAICS 7139)			
African American	0.00	0.05	0.00
Hispanic	0.00	1.11	0.00
Asian	0.00	0.83	0.00
Native American	0.00	1.10	0.00
Minority	0.00	3.08	0.00 ****
Nonminority female	0.00	15.30	0.00 ****
M/WBE total	0.00	18.38	0.00 ****
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	0.00	12.25	0.00 ****
Hispanic	0.00	1.93	0.00 ****
Asian	2.61	2.59	
Native American	0.00	0.41	0.00 ****
Minority	2.61	17.18	15.18 ****
Nonminority female	4.81	12.52	38.39 ****
M/WBE total	7.42	29.70	24.97 ****
Offices of Physicians (NAICS 6211)			
African American	16.66	6.70	
Hispanic	0.14	2.32	6.14 ***
Asian	14.72	7.35	
Native American	5.04	3.95	
Minority	36.56	20.32	
Nonminority female	3.10	18.47	16.81 ****
M/WBE total	39.66	38.79	
Waste Collection (NAICS 5621)			
African American	0.62	23.81	2.59 ****
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	3.14	0.00 ****
Minority	0.62	26.96	2.29 ****
Nonminority female	0.22	7.25	3.07 ****
M/WBE total	0.84	34.21	2.45 ****
Paper and Paper Product Merchant Wholesalers (NAICS 4241)			
African American	11.26	13.33	84.42
Hispanic	0.74	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	11.99	13.33	89.95
Nonminority female	0.39	0.00	
M/WBE total	12.38	13.33	92.84

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Data Processing, Hosting, and Related Services (NAICS 5182)			
African American	36.15	21.33	
Hispanic	0.00	1.91	0.00 ****
Asian	0.00	5.77	0.00 ****
Native American	0.00	0.14	0.00
Minority	36.15	29.16	
Nonminority female	0.18	15.34	1.16 ****
M/WBE total	36.32	44.50	81.62
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00 ****
Hispanic	0.00	1.99	0.00 ****
Asian	33.82	3.41	
Native American	0.00	0.45	0.00 ****
Minority	33.82	14.61	
Nonminority female	9.22	10.28	89.64
M/WBE total	43.04	24.89	
Remediation and Other Waste Management Services (NAICS 5629)			
African American	0.00	5.14	0.00 ****
Hispanic	0.02	0.05	40.32
Asian	0.83	0.10	
Native American	0.00	0.10	0.00
Minority	0.85	5.39	15.83 ****
Nonminority female	0.00	2.22	0.00 ****
M/WBE total	0.85	7.61	11.20 ****
Cable and Other Subscription Programming (NAICS 5152)			
African American	0.00	5.49	0.00 ****
Hispanic	0.00	3.55	0.00 ****
Asian	0.00	4.00	0.00 ****
Native American	0.00	0.06	0.00
Minority	0.00	13.10	0.00 ****
Nonminority female	0.00	3.25	0.00 ****
M/WBE total	0.00	16.35	0.00 ****
Vending Machine Operators (NAICS 4542)			
African American	6.20	21.89	28.35
Hispanic	0.00	0.72	0.00
Asian	0.00	4.46	0.00 ****
Native American	0.00	0.01	0.00
Minority	6.20	27.07	22.92
Nonminority female	0.00	7.43	0.00 ****
M/WBE total	6.20	34.49	17.99 ***

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Logging (NAICS 1133)			
African American	0.00	2.24	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	2.24	0.00
Nonminority female	0.00	26.78	0.00 ****
M/WBE total	0.00	29.02	0.00 ****
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	0.89	13.59	6.54 ****
Hispanic	11.87	3.09	
Asian	6.41	3.70	
Native American	0.00	0.38	0.00 ****
Minority	19.17	20.75	92.39
Nonminority female	6.58	11.87	55.43 ****
M/WBE total	25.75	32.62	78.94 ***
Educational Support Services (NAICS 6117)			
African American	70.34	25.75	
Hispanic	0.00	0.71	0.00
Asian	0.00	3.31	0.00 ****
Native American	0.00	2.37	0.00 ****
Minority	70.34	32.14	
Nonminority female	0.41	10.40	3.95 *
M/WBE total	70.75	42.54	
Nonresidential Building Construction (NAICS 2362)			
African American	0.82	12.17	6.75 ****
Hispanic	0.45	6.74	6.69 ****
Asian	0.00	4.46	0.00 ****
Native American	3.96	2.09	
Minority	5.23	25.46	20.56 ****
Nonminority female	0.00	10.01	0.00 ****
M/WBE total	5.23	35.47	14.76 ****
Electric Lighting Equipment Manufacturing (NAICS 3351)			
African American	0.00	6.12	0.00 ****
Hispanic	0.00	0.11	0.00
Asian	0.00	0.23	0.00 ****
Native American	0.00	3.52	0.00 ****
Minority	0.00	9.99	0.00 ****
Nonminority female	6.16	17.36	35.50 ****
M/WBE total	6.16	27.34	22.54 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Health and Personal Care Stores (NAICS 4461)			
African American	0.00	6.28	0.00 ****
Hispanic	0.00	2.68	0.00 ****
Asian	0.84	2.00	41.76 ***
Native American	0.00	0.01	0.00
Minority	0.84	10.97	7.63 ****
Nonminority female	3.73	4.90	76.12
M/WBE total	4.57	15.87	28.79 ****
Automobile Dealers (NAICS 4411)			
African American	0.00	4.17	0.00 ****
Hispanic	0.00	2.71	0.00 ****
Asian	0.00	2.96	0.00 ****
Native American	0.00	0.05	0.00
Minority	0.00	9.89	0.00 ****
Nonminority female	0.00	10.16	0.00 ****
M/WBE total	0.00	20.05	0.00 ****
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)			
African American	0.00	5.95	0.00 ****
Hispanic	0.00	2.11	0.00 ****
Asian	0.00	0.41	0.00
Native American	0.00	0.01	0.00
Minority	0.00	8.48	0.00 ****
Nonminority female	0.00	3.20	0.00 ****
M/WBE total	0.00	11.68	0.00 ****
Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures (NAICS 7114)			
African American	0.00	14.25	0.00 ****
Hispanic	0.00	3.77	0.00 ****
Asian	0.00	4.97	0.00 ****
Native American	0.00	1.04	0.00
Minority	0.00	24.02	0.00 ****
Nonminority female	0.09	19.46	0.46 ****
M/WBE total	0.09	43.48	0.20 ****
Traveler Accommodation (NAICS 7211)			
African American	0.00	0.13	0.00
Hispanic	0.00	1.43	0.00 ****
Asian	0.04	10.56	0.35 ****
Native American	0.00	3.60	0.00 ****
Minority	0.04	15.72	0.24 ****
Nonminority female	0.00	9.94	0.00 ****
M/WBE total	0.04	25.65	0.15 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Business, Professional, Labor, Political, and Similar Organizations (NAICS 8139)			
African American	2.90	11.62	24.98
Hispanic	0.00	4.08	0.00 ****
Asian	0.00	5.30	0.00 ****
Native American	0.00	0.82	0.00
Minority	2.90	21.82	13.30
Nonminority female	0.00	15.09	0.00 ****
M/WBE total	2.90	36.91	7.86 **
Colleges, Universities, and Professional Schools (NAICS 6113)			
African American	0.00	10.98	0.00 ****
Hispanic	0.00	3.89	0.00
Asian	0.00	5.08	0.00 ****
Native American	0.00	0.78	0.00
Minority	0.00	20.74	0.00 ****
Nonminority female	0.00	14.37	0.00 ****
M/WBE total	0.00	35.10	0.00 ****
Other Specialty Trade Contractors (NAICS 2389)			
African American	0.00	6.37	0.00 ****
Hispanic	6.96	1.28	
Asian	0.55	3.21	16.97 ****
Native American	0.00	4.14	0.00 ****
Minority	7.51	15.01	50.02 ****
Nonminority female	16.15	11.20	
M/WBE total	23.66	26.21	90.28
Specialized Design Services (NAICS 5414)			
African American	48.67	15.06	
Hispanic	0.00	3.76	0.00 ****
Asian	0.00	4.93	0.00 ****
Native American	0.00	1.27	0.00 ****
Minority	48.67	25.01	
Nonminority female	9.13	24.71	36.95 ****
M/WBE total	57.80	49.73	

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.10. Industry Group Utilization, Availability, and Disparity Results for State of Maryland Services Contracting (Dollars Paid)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Electric Power Generation, Transmission and Distribution (NAICS 2211)			
African American	0.00	1.22	0.00 ****
Hispanic	0.00	0.01	0.00
Asian	0.00	1.80	0.00 ****
Native American	0.00	1.11	0.00 ****
Minority	0.00	4.14	0.00 ****
Nonminority female	0.00	8.17	0.00 ****
M/WBE total	0.00	12.31	0.00 ****
Office Administrative Services (NAICS 5611)			
African American	0.00	12.78	0.00 ****
Hispanic	0.00	2.34	0.00 ****
Asian	0.00	2.67	0.00 ****
Native American	0.00	0.81	0.00
Minority	0.00	18.60	0.00 ****
Nonminority female	0.00	19.74	0.00 ****
M/WBE total	0.00	38.34	0.00 ****
Other Residential Care Facilities (NAICS 6239)			
African American	0.00	13.45	0.00 ****
Hispanic	0.00	0.69	0.00
Asian	0.00	0.70	0.00
Native American	0.00	0.03	0.00
Minority	0.00	14.86	0.00 ****
Nonminority female	0.00	10.36	0.00 ****
M/WBE total	0.00	25.22	0.00 ****
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	1.38	14.29	9.68 ****
Hispanic	0.47	2.50	18.67 **
Asian	0.02	5.29	0.35 ****
Native American	0.00	0.84	0.00 ****
Minority	1.87	22.92	8.15 ****
Nonminority female	8.42	16.91	49.82
M/WBE total	10.29	39.83	25.84 ****
Other Ambulatory Health Care Services (NAICS 6219)			
African American	0.04	13.34	0.31
Hispanic	0.00	3.93	0.00
Asian	1.65	7.38	22.32
Native American	0.00	0.65	0.00
Minority	1.69	25.30	6.67
Nonminority female	0.00	17.53	0.00 ****
M/WBE total	1.69	42.83	3.94 ***

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Advertising, Public Relations, and Related Services (NAICS 5418)			
African American	4.15	9.13	45.43 ***
Hispanic	0.00	2.29	0.10 ****
Asian	0.56	1.18	47.71
Native American	0.00	0.54	0.00 ****
Minority	4.71	13.13	35.87 ****
Nonminority female	0.56	26.84	2.10 ****
M/WBE total	5.28	39.98	13.20 ****
Rail Transportation (NAICS 4821)			
African American	0.00	0.65	0.00
Hispanic	0.00	0.14	0.00
Asian	0.00	0.20	0.00
Native American	0.00	0.08	0.00
Minority	0.00	1.06	0.00
Nonminority female	0.00	1.69	0.00 **
M/WBE total	0.00	2.74	0.00 **
Business Support Services (NAICS 5614)			
African American	0.00	17.14	0.00 ****
Hispanic	0.00	3.82	0.00 ****
Asian	0.00	3.18	0.00 ****
Native American	0.00	3.87	0.00 ****
Minority	0.00	28.00	0.00 ****
Nonminority female	0.26	14.74	1.75 ****
M/WBE total	0.26	42.74	0.60 ****
Other Transit and Ground Passenger Transportation (NAICS 4859)			
African American	59.47	29.55	
Hispanic	0.00	4.35	0.00 ****
Asian	0.00	3.85	0.00 ****
Native American	0.00	0.80	0.00
Minority	59.47	38.55	
Nonminority female	0.00	14.10	0.00 ****
M/WBE total	59.47	52.65	
Computer Systems Design and Related Services (NAICS 5415)			
African American	20.36	16.98	
Hispanic	13.73	3.19	
Asian	2.98	14.17	21.03 ****
Native American	0.09	1.15	7.61 ****
Minority	37.16	35.48	
Nonminority female	4.97	12.49	39.81 ***
M/WBE total	42.13	47.97	87.82

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.00	6.97	0.00 ****
Hispanic	0.00	1.03	0.00 ****
Asian	0.00	4.75	0.00 ****
Native American	0.00	0.01	0.00
Minority	0.00	12.77	0.00 ****
Nonminority female	0.00	5.59	0.00 ****
M/WBE total	0.00	18.36	0.00 ****
Insurance Carriers (NAICS 5241)			
African American	0.00	3.29	0.00 ****
Hispanic	0.00	0.08	0.00
Asian	0.00	0.11	0.00
Native American	0.00	0.03	0.00
Minority	0.00	3.51	0.00 ****
Nonminority female	0.00	4.60	0.00 ****
M/WBE total	0.00	8.11	0.00 ****
Printing and Related Support Activities (NAICS 3231)			
African American	0.00	4.82	0.00 ****
Hispanic	0.00	1.60	0.00 ****
Asian	0.00	5.27	0.00 ****
Native American	0.00	0.98	0.00 ****
Minority	0.00	12.67	0.00 ****
Nonminority female	45.67	17.92	
M/WBE total	45.67	30.59	
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)			
African American	49.67	8.55	
Hispanic	0.00	0.23	0.00 **
Asian	0.00	5.55	0.00 ****
Native American	0.00	0.12	0.00
Minority	49.67	14.44	
Nonminority female	0.00	11.32	0.00 ****
M/WBE total	49.67	25.76	
Individual and Family Services (NAICS 6241)			
African American	99.03	9.52	
Hispanic	0.00	0.64	0.00
Asian	0.00	2.46	0.00
Native American	0.00	1.82	0.00
Minority	99.03	14.43	
Nonminority female	0.00	11.27	0.00 ****
M/WBE total	99.03	25.71	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Natural Gas Distribution (NAICS 2212)			
African American	0.00	5.63	0.00 ****
Hispanic	0.00	0.00	
Asian	0.00	4.87	0.00 ****
Native American	0.00	0.00	
Minority	0.00	10.50	0.00 ****
Nonminority female	0.00	0.00	
M/WBE total	0.00	10.50	0.00 ****
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	3.43	6.70	51.26 ****
Hispanic	0.16	2.04	7.68 ****
Asian	0.52	5.36	9.79 ****
Native American	0.00	1.59	0.00 ****
Minority	4.11	15.69	26.23 ****
Nonminority female	0.44	9.36	4.75 ****
M/WBE total	4.56	25.04	18.20 ****
Taxi and Limousine Service (NAICS 4853)			
African American	0.19	20.41	0.94 ****
Hispanic	0.00	3.19	0.00 ****
Asian	0.45	12.24	3.71
Native American	0.00	2.26	0.00 ****
Minority	0.65	38.10	1.70 ****
Nonminority female	1.85	6.75	27.37
M/WBE total	2.49	44.86	5.56 ***
Building Equipment Contractors (NAICS 2382)			
African American	43.75	11.96	
Hispanic	25.82	6.25	
Asian	0.00	1.68	0.00 ****
Native American	0.00	1.13	0.00 ****
Minority	69.57	21.02	
Nonminority female	0.85	12.59	6.79 ****
M/WBE total	70.42	33.61	
Offices of Dentists (NAICS 6212)			
African American	98.88	6.41	
Hispanic	0.00	2.30	0.00
Asian	0.00	10.10	0.00 ****
Native American	0.00	1.80	0.00
Minority	98.88	20.61	
Nonminority female	0.00	17.54	0.00 ****
M/WBE total	98.88	38.15	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Services to Buildings and Dwellings (NAICS 5617)			
African American	2.15	26.52	8.12 ****
Hispanic	6.30	9.66	65.19
Asian	0.00	4.09	0.00 ****
Native American	0.00	0.49	0.00 ****
Minority	8.45	40.76	20.73 ****
Nonminority female	16.16	13.62	
M/WBE total	24.61	54.38	45.27 ****
Grocery and Related Product Merchant Wholesalers (NAICS 4244)			
African American	0.00	12.26	0.00 ****
Hispanic	30.84	3.97	
Asian	8.68	7.13	
Native American	0.00	0.51	0.00 ****
Minority	39.52	23.86	
Nonminority female	0.72	19.53	3.70 ****
M/WBE total	40.24	43.39	92.74
Other Telecommunications (NAICS 5179)			
African American	0.00	4.61	0.00 ****
Hispanic	0.00	2.56	0.00 **
Asian	0.00	1.77	0.00 **
Native American	0.00	0.43	0.00
Minority	0.00	9.38	0.00 ****
Nonminority female	0.01	3.00	0.47
M/WBE total	0.01	12.38	0.11 ****
Employment Services (NAICS 5613)			
African American	31.50	14.91	
Hispanic	0.00	2.40	0.00 ****
Asian	0.00	5.57	0.00 ****
Native American	0.27	0.50	54.36
Minority	31.77	23.38	
Nonminority female	52.58	16.60	
M/WBE total	84.35	39.98	
Accounting, Tax Preparation, Bookkeeping, and Payroll Services (NAICS 5412)			
African American	12.14	14.57	83.33
Hispanic	0.00	0.87	0.00
Asian	0.00	0.94	0.00
Native American	0.00	2.10	0.00 ****
Minority	12.14	18.49	65.67
Nonminority female	1.48	24.82	5.97 ****
M/WBE total	13.62	43.31	31.45

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Special Food Services (NAICS 7223)			
African American	5.42	16.90	32.07 ****
Hispanic	0.00	0.68	0.00 ****
Asian	0.00	3.79	0.00 ****
Native American	0.00	0.11	0.00
Minority	5.42	21.47	25.24 ****
Nonminority female	6.76	3.31	
M/WBE total	12.18	24.78	49.13 ***
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)			
African American	17.22	2.21	
Hispanic	0.00	0.69	0.00 ****
Asian	0.00	1.08	0.00 ****
Native American	0.00	0.70	0.00 ****
Minority	17.22	4.68	
Nonminority female	0.40	14.34	2.76 ****
M/WBE total	17.61	19.02	92.61
Investigation and Security Services (NAICS 5616)			
African American	4.66	20.38	22.88 ***
Hispanic	0.00	1.84	0.00 ****
Asian	0.00	2.72	0.00 ****
Native American	0.00	1.80	0.00 ****
Minority	4.66	26.73	17.44 ****
Nonminority female	0.71	11.90	6.00 ****
M/WBE total	5.37	38.63	13.91 ****
Other Personal Services (NAICS 8129)			
African American	0.00	4.15	0.00 **
Hispanic	0.00	0.96	0.00
Asian	0.00	0.50	0.00
Native American	0.00	0.01	0.00
Minority	0.00	5.62	0.00 **
Nonminority female	0.44	2.61	16.92
M/WBE total	0.44	8.24	5.36
Lessors of Real Estate (NAICS 5311)			
African American	0.00	2.99	0.00 ****
Hispanic	0.00	0.15	0.00
Asian	0.00	1.89	0.00 ****
Native American	0.00	0.03	0.00
Minority	0.00	5.06	0.00 ****
Nonminority female	0.00	14.43	0.00 ****
M/WBE total	0.00	19.48	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Wireless Telecommunications Carriers (except Satellite) (NAICS 5172)			
African American	0.82	9.50	8.68 ****
Hispanic	0.00	3.00	0.00 ****
Asian	0.00	4.55	0.00 ****
Native American	0.00	0.68	0.00 ****
Minority	0.82	17.74	4.65 ****
Nonminority female	0.00	12.18	0.00 ****
M/WBE total	0.82	29.92	2.76 ****
Urban Transit Systems (NAICS 4851)			
African American	0.00	42.42	0.00 ****
Hispanic	0.00	4.79	0.00 *
Asian	0.00	10.65	0.00 ****
Native American	0.00	0.12	0.00
Minority	0.00	57.97	0.00 ****
Nonminority female	0.00	5.04	0.00 *
M/WBE total	0.00	63.02	0.00 ****
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)			
African American	0.32	8.56	3.79 ****
Hispanic	0.00	0.75	0.00 ***
Asian	0.00	1.35	0.00 ****
Native American	0.00	0.07	0.00
Minority	0.32	10.73	3.03 ****
Nonminority female	0.77	14.61	5.24 ****
M/WBE total	1.09	25.34	4.30 ****
Radio and Television Broadcasting (NAICS 5151)			
African American	0.00	5.39	0.00 ****
Hispanic	0.00	0.13	0.00
Asian	0.00	1.69	0.00 ***
Native American	0.00	2.13	0.00 ****
Minority	0.00	9.34	0.00 ****
Nonminority female	0.00	2.21	0.00 ****
M/WBE total	0.00	11.55	0.00 ****
Charter Bus Industry (NAICS 4855)			
African American	0.00	29.84	0.00 ****
Hispanic	0.00	0.97	0.00
Asian	0.00	0.39	0.00
Native American	0.00	0.18	0.00
Minority	0.00	31.39	0.00 ****
Nonminority female	0.00	17.80	0.00 ****
M/WBE total	0.00	49.19	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Railroad Rolling Stock Manufacturing (NAICS 3365)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	1.35	0.00	
Minority	1.35	0.00	
Nonminority female	40.31	0.00	
M/WBE total	41.66	0.00	
Water, Sewage and Other Systems (NAICS 2213)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	50.00	0.00 ****
M/WBE total	0.00	50.00	0.00 ****
Other Professional, Scientific, and Technical Services (NAICS 5419)			
African American	0.00	2.53	0.00 ****
Hispanic	70.36	17.12	
Asian	6.35	4.32	
Native American	0.00	2.70	0.00 ****
Minority	76.71	26.67	
Nonminority female	4.20	29.92	14.04 ****
M/WBE total	80.91	56.60	
Other Support Services (NAICS 5619)			
African American	0.00	18.71	0.00 ****
Hispanic	0.00	2.45	0.00 ****
Asian	0.00	2.57	0.00 ****
Native American	0.00	0.02	0.00
Minority	0.00	23.75	0.00 ****
Nonminority female	1.52	28.54	5.31 ****
M/WBE total	1.52	52.30	2.90 ****
Depository Credit Intermediation (NAICS 5221)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.00	0.00
Asian	0.00	0.42	0.00
Native American	0.00	0.00	0.00
Minority	0.00	0.61	0.00
Nonminority female	0.00	0.44	0.00
M/WBE total	0.00	1.06	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Activities Related to Real Estate (NAICS 5313)			
African American	0.00	11.69	0.00 ****
Hispanic	0.00	4.81	0.00 **
Asian	0.00	1.66	0.00
Native American	0.00	0.01	0.00
Minority	0.00	18.18	0.00 ****
Nonminority female	0.00	20.62	0.00 ****
M/WBE total	0.00	38.79	0.00 ****
Legal Services (NAICS 5411)			
African American	3.70	5.16	71.73
Hispanic	0.00	3.53	0.00 ****
Asian	0.00	0.26	0.00
Native American	0.00	0.04	0.00
Minority	3.70	9.00	41.14
Nonminority female	17.96	21.42	83.84
M/WBE total	21.66	30.42	71.21
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)			
African American	0.00	6.59	0.00 ****
Hispanic	0.03	1.32	1.98 ****
Asian	0.00	6.15	0.00 ****
Native American	0.00	1.10	0.00 ****
Minority	0.03	15.17	0.17 ****
Nonminority female	0.32	12.95	2.50 ****
M/WBE total	0.35	28.12	1.24 ****
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)			
African American	0.00	2.69	0.00 ****
Hispanic	0.00	3.52	0.00 ****
Asian	0.00	2.64	0.00 ****
Native American	0.00	1.09	0.00 ****
Minority	0.00	9.94	0.00 ****
Nonminority female	0.12	7.69	1.58 ****
M/WBE total	0.12	17.63	0.69 ****
Local Messengers and Local Delivery (NAICS 4922)			
African American	0.00	13.55	0.00 ****
Hispanic	0.00	3.26	0.00
Asian	0.81	4.98	16.18
Native American	0.00	0.78	0.00
Minority	0.81	22.57	3.57 *
Nonminority female	0.00	15.17	0.00 ****
M/WBE total	0.81	37.75	2.14 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	0.00	12.07	0.00 ****
Hispanic	0.00	1.90	0.00 ****
Asian	1.20	3.00	40.04 ***
Native American	0.00	0.46	0.00 ****
Minority	1.20	17.43	6.89 ****
Nonminority female	3.54	12.11	29.19 ****
M/WBE total	4.74	29.54	16.03 ****
Motion Picture and Video Industries (NAICS 5121)			
African American	3.17	14.52	21.85 ***
Hispanic	0.00	3.33	0.00 ****
Asian	0.00	2.18	0.00 ****
Native American	0.00	0.10	0.00
Minority	3.17	20.14	15.75 ****
Nonminority female	7.51	25.68	29.24 ****
M/WBE total	10.68	45.82	23.31 ****
Scientific Research and Development Services (NAICS 5417)			
African American	9.12	4.70	
Hispanic	0.00	0.51	0.00 **
Asian	0.84	3.49	24.12
Native American	0.00	1.76	0.00 ****
Minority	9.96	10.46	95.24
Nonminority female	10.89	6.25	
M/WBE total	20.86	16.71	
Facilities Support Services (NAICS 5612)			
African American	0.00	26.39	0.00 ****
Hispanic	0.00	3.77	0.00 ****
Asian	1.21	2.52	47.98
Native American	0.00	1.15	0.00 ***
Minority	1.21	33.83	3.57 ****
Nonminority female	90.87	9.10	
M/WBE total	92.08	42.92	
Paper and Paper Product Merchant Wholesalers (NAICS 4241)			
African American	4.19	13.33	31.42
Hispanic	0.81	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	5.00	13.33	37.51
Nonminority female	0.12	0.00	
M/WBE total	5.12	13.33	38.42

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Automotive Repair and Maintenance (NAICS 8111)			
African American	73.95	10.50	
Hispanic	6.07	7.20	84.38
Asian	0.00	4.63	0.00 ****
Native American	0.00	1.53	0.00 ****
Minority	80.02	23.86	
Nonminority female	0.08	9.22	0.82 ****
M/WBE total	80.09	33.08	
Other Information Services (NAICS 5191)			
African American	0.00	13.45	0.00 ****
Hispanic	0.00	0.74	0.00 ****
Asian	0.00	7.00	0.00 ****
Native American	0.00	5.97	0.00 ****
Minority	0.00	27.16	0.00 ****
Nonminority female	0.00	11.26	0.00 ****
M/WBE total	0.00	38.42	0.00 ****
Cable and Other Subscription Programming (NAICS 5152)			
African American	0.00	5.49	0.00 ***
Hispanic	0.00	3.55	0.00
Asian	0.00	4.00	0.00 ***
Native American	0.00	0.06	0.00
Minority	0.00	13.10	0.00 ****
Nonminority female	0.00	3.25	0.00
M/WBE total	0.00	16.35	0.00 ****
Data Processing, Hosting, and Related Services (NAICS 5182)			
African American	47.22	21.33	
Hispanic	0.00	1.91	0.00 **
Asian	0.00	5.77	0.00 ****
Native American	0.00	0.14	0.00
Minority	47.22	29.16	
Nonminority female	0.24	15.34	1.54 ****
M/WBE total	47.46	44.50	
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	5.93	0.00 ****
Hispanic	0.00	0.00	
Asian	0.00	0.50	0.00 ****
Native American	1.39	0.03	
Minority	1.39	6.46	21.45 ****
Nonminority female	0.00	5.21	0.00 ****
M/WBE total	1.39	11.67	11.88 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Logging (NAICS 1133)			
African American	0.00	2.24	0.00
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	2.24	0.00
Nonminority female	0.00	26.78	0.00 ****
M/WBE total	0.00	29.02	0.00 ****
Offices of Physicians (NAICS 6211)			
African American	27.16	8.17	
Hispanic	0.00	2.71	0.00 ****
Asian	7.73	6.79	
Native American	1.89	3.14	60.29
Minority	36.79	20.81	
Nonminority female	0.00	18.47	0.00 ****
M/WBE total	36.79	39.28	93.65
Remediation and Other Waste Management Services (NAICS 5629)			
African American	0.00	5.14	0.00 ****
Hispanic	0.00	0.05	0.00
Asian	1.04	0.10	
Native American	0.00	0.10	0.00
Minority	1.04	5.39	19.37 ***
Nonminority female	0.00	2.22	0.00 ****
M/WBE total	1.04	7.61	13.71 ****
Vending Machine Operators (NAICS 4542)			
African American	7.05	21.89	32.19
Hispanic	0.00	0.72	0.00
Asian	0.00	4.46	0.00 ****
Native American	0.00	0.01	0.00
Minority	7.05	27.07	26.03
Nonminority female	0.00	7.43	0.00 ****
M/WBE total	7.05	34.49	20.43
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	0.89	13.59	6.53 ****
Hispanic	12.36	3.09	
Asian	6.67	3.70	
Native American	0.00	0.38	0.00 ****
Minority	19.92	20.75	96.01
Nonminority female	5.35	11.87	45.04 ****
M/WBE total	25.27	32.62	77.46 ***

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.41	6.10	6.65 ****
Hispanic	0.00	2.02	0.00 ****
Asian	0.01	3.22	0.18 ****
Native American	0.00	0.78	0.00 ****
Minority	0.41	12.11	3.40 ****
Nonminority female	25.70	10.34	
M/WBE total	26.11	22.45	
Nonresidential Building Construction (NAICS 2362)			
African American	0.00	12.17	0.00 ****
Hispanic	0.48	6.74	7.05 ****
Asian	0.00	4.46	0.00 ****
Native American	4.17	2.09	
Minority	4.65	25.46	18.25 ****
Nonminority female	0.00	10.01	0.00 ****
M/WBE total	4.65	35.47	13.10 ****
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00 ****
Hispanic	0.00	1.99	0.00 ****
Asian	0.94	3.41	27.52
Native American	0.00	0.45	0.00 ****
Minority	0.94	14.61	6.41 ****
Nonminority female	7.80	10.28	75.89
M/WBE total	8.74	24.89	35.12 **
Outpatient Care Centers (NAICS 6214)			
African American	0.39	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.39	0.00	
Nonminority female	0.00	12.93	0.00 ****
M/WBE total	0.39	12.93	3.00
Automobile Dealers (NAICS 4411)			
African American	0.00	4.17	0.00 ****
Hispanic	0.00	2.71	0.00 ****
Asian	0.00	2.96	0.00 ****
Native American	0.00	0.05	0.00
Minority	0.00	9.89	0.00 ****
Nonminority female	0.00	10.16	0.00 ****
M/WBE total	0.00	20.05	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)			
African American	0.00	5.95	0.00 ****
Hispanic	0.00	2.11	0.00 ****
Asian	0.00	0.41	0.00
Native American	0.00	0.01	0.00
Minority	0.00	8.48	0.00 ****
Nonminority female	0.00	3.20	0.00 ****
M/WBE total	0.00	11.68	0.00 ****
Other Specialty Trade Contractors (NAICS 2389)			
African American	0.00	6.88	0.00 ****
Hispanic	8.72	5.24	
Asian	0.00	3.78	0.00 ****
Native American	0.00	2.66	0.00 ****
Minority	8.72	18.56	47.00 ***
Nonminority female	3.17	11.70	27.13 ****
M/WBE total	11.90	30.26	39.31 ****
Business, Professional, Labor, Political, and Similar Organizations (NAICS 8139)			
African American	2.97	11.62	25.56
Hispanic	0.00	4.08	0.00 ****
Asian	0.00	5.30	0.00 ****
Native American	0.00	0.82	0.00
Minority	2.97	21.82	13.61
Nonminority female	0.00	15.09	0.00 ****
M/WBE total	2.97	36.91	8.05 **
Software Publishers (NAICS 5112)			
African American	0.04	11.92	0.35 ****
Hispanic	0.00	3.54	0.00 ****
Asian	1.96	8.00	24.43 ***
Native American	0.00	0.28	0.00 ****
Minority	2.00	23.74	8.41 ****
Nonminority female	0.00	13.22	0.00 ****
M/WBE total	2.00	36.96	5.40 ****
Colleges, Universities, and Professional Schools (NAICS 6113)			
African American	0.00	10.98	0.00
Hispanic	0.00	3.89	0.00
Asian	0.00	5.08	0.00
Native American	0.00	0.78	0.00
Minority	0.00	20.74	0.00 **
Nonminority female	0.00	14.37	0.00 **
M/WBE total	0.00	35.10	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Utility System Construction (NAICS 2371)			
African American	0.00	9.57	0.00 ****
Hispanic	0.00	1.99	0.00 ****
Asian	0.00	2.39	0.00 ****
Native American	0.00	0.90	0.00 ****
Minority	0.00	14.85	0.00 ****
Nonminority female	3.59	9.66	37.18
M/WBE total	3.59	24.51	14.66 ****
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)			
African American	0.00	2.59	0.00 ****
Hispanic	0.00	3.52	0.00 ****
Asian	0.00	1.66	0.00 **
Native American	0.00	0.48	0.00
Minority	0.00	8.25	0.00 ****
Nonminority female	0.00	4.74	0.00 ****
M/WBE total	0.00	13.00	0.00 ****
Traveler Accommodation (NAICS 7211)			
African American	0.00	0.13	0.00
Hispanic	0.00	1.43	0.00 **
Asian	0.00	10.56	0.00 ****
Native American	0.00	3.60	0.00 ****
Minority	0.00	15.72	0.00 ****
Nonminority female	0.00	9.94	0.00 ****
M/WBE total	0.00	25.65	0.00 ****
Direct Selling Establishments (NAICS 4543)			
African American	83.50	2.43	
Hispanic	0.00	0.82	0.00
Asian	0.00	0.83	0.00
Native American	0.00	0.01	0.00
Minority	83.50	4.08	
Nonminority female	0.00	8.60	0.00 ****
M/WBE total	83.50	12.68	
General Freight Trucking (NAICS 4841)			
African American	0.00	14.27	0.00 ****
Hispanic	0.00	4.15	0.00 ****
Asian	0.00	5.16	0.00 ****
Native American	0.00	0.85	0.00
Minority	0.00	24.42	0.00 ****
Nonminority female	51.70	15.91	
M/WBE total	51.70	40.33	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Restaurants and Other Eating Places (NAICS 7225)			
African American	0.00	2.73	0.00 ***
Hispanic	0.00	2.77	0.00 ***
Asian	0.00	8.55	0.00 ****
Native American	0.00	0.08	0.00
Minority	0.00	14.13	0.00 ****
Nonminority female	0.00	8.22	0.00 ****
M/WBE total	0.00	22.34	0.00 ****
Specialty Food Stores (NAICS 4452)			
African American	0.00	0.07	0.00
Hispanic	0.00	0.02	0.00
Asian	0.00	1.68	0.00
Native American	0.00	0.00	0.00
Minority	0.00	1.78	0.00
Nonminority female	0.00	21.47	0.00 ****
M/WBE total	0.00	23.25	0.00 ****
Cattle Ranching and Farming (NAICS 1121)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	2.06	0.00 *
Minority	0.00	2.06	0.00 *
Nonminority female	0.00	17.26	0.00 ****
M/WBE total	0.00	19.31	0.00 ****
Specialized Design Services (NAICS 5414)			
African American	45.50	15.06	
Hispanic	0.00	3.76	0.00 ****
Asian	0.00	4.93	0.00 ****
Native American	0.00	1.27	0.00 ****
Minority	45.50	25.01	
Nonminority female	11.44	24.71	46.30 ***
M/WBE total	56.94	49.73	
Gambling Industries (NAICS 7132)			
African American	0.00	15.62	0.00 ****
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	15.62	0.00 ****
Nonminority female	0.00	31.25	0.00 ****
M/WBE total	0.00	46.88	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Automotive Equipment Rental and Leasing (NAICS 5321)			
African American	0.00	9.15	0.00 ****
Hispanic	0.00	3.17	0.00 ****
Asian	0.00	3.99	0.00 ****
Native American	0.00	0.66	0.00 **
Minority	0.00	16.97	0.00 ****
Nonminority female	0.00	12.53	0.00 ****
M/WBE total	0.00	29.49	0.00 ****
Waste Treatment and Disposal (NAICS 5622)			
African American	0.00	8.77	0.00 ****
Hispanic	0.00	2.81	0.00 ****
Asian	44.20	0.97	
Native American	0.00	0.00	
Minority	44.20	12.54	
Nonminority female	0.00	22.25	0.00 ****
M/WBE total	44.20	34.80	
Bakeries and Tortilla Manufacturing (NAICS 3118)			
African American	0.00	8.73	0.00 ****
Hispanic	0.00	11.97	0.00 ****
Asian	0.00	0.31	0.00
Native American	0.00	0.06	0.00
Minority	0.00	21.07	0.00 ****
Nonminority female	0.00	16.15	0.00 ****
M/WBE total	0.00	37.22	0.00 ****
Electric Lighting Equipment Manufacturing (NAICS 3351)			
African American	0.00	6.12	0.00 ****
Hispanic	0.00	0.11	0.00
Asian	0.00	0.23	0.00 ***
Native American	0.00	3.52	0.00 ****
Minority	0.00	9.99	0.00 ****
Nonminority female	17.16	17.36	98.86
M/WBE total	17.16	27.34	62.76 ***
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)			
African American	0.00	12.97	0.00 ****
Hispanic	0.00	2.87	0.00 ****
Asian	53.46	11.06	
Native American	0.00	1.29	0.00 ****
Minority	53.46	28.19	
Nonminority female	0.00	16.05	0.00 ****
M/WBE total	53.46	44.24	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Support Activities for Road Transportation (NAICS 4884)			
African American	0.00	12.13	0.00 ****
Hispanic	0.00	4.00	0.00 ****
Asian	0.00	5.45	0.00 ****
Native American	0.00	0.87	0.00 ***
Minority	0.00	22.44	0.00 ****
Nonminority female	0.00	16.22	0.00 ****
M/WBE total	0.00	38.66	0.00 ****
Drycleaning and Laundry Services (NAICS 8123)			
African American	0.00	7.69	0.00 ****
Hispanic	0.00	2.63	0.00 ****
Asian	0.00	5.59	0.00 ****
Native American	0.00	0.66	0.00
Minority	0.00	16.57	0.00 ****
Nonminority female	0.00	10.19	0.00 ****
M/WBE total	0.00	26.75	0.00 ****
Offices of Real Estate Agents and Brokers (NAICS 5312)			
African American	0.00	7.84	0.00 ****
Hispanic	0.00	1.56	0.00
Asian	0.00	4.25	0.00 **
Native American	0.00	0.33	0.00
Minority	0.00	13.98	0.00 ****
Nonminority female	0.00	18.14	0.00 ****
M/WBE total	0.00	32.12	0.00 ****
Other Financial Investment Activities (NAICS 5239)			
African American	0.00	11.69	0.00 ****
Hispanic	0.00	3.70	0.00 ****
Asian	0.00	5.05	0.00 ****
Native American	0.00	0.82	0.00
Minority	0.00	21.26	0.00 ****
Nonminority female	0.00	15.25	0.00 ****
M/WBE total	0.00	36.52	0.00 ****
Medical Equipment and Supplies Manufacturing (NAICS 3391)			
African American	0.00	10.96	0.00 ****
Hispanic	0.00	3.98	0.00 ****
Asian	0.00	5.60	0.00 ****
Native American	0.00	0.75	0.00 **
Minority	0.00	21.29	0.00 ****
Nonminority female	0.00	13.75	0.00 ****
M/WBE total	0.00	35.04	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)			
African American	0.00	4.21	0.00 ****
Hispanic	0.00	0.08	0.00 ****
Asian	0.00	0.12	0.00 ****
Native American	0.00	3.80	0.00 ****
Minority	0.00	8.22	0.00 ****
Nonminority female	2.89	7.76	37.30 ****
M/WBE total	2.89	15.98	18.12 ****
Medical and Diagnostic Laboratories (NAICS 6215)			
African American	0.00	9.21	0.00 ****
Hispanic	0.00	2.65	0.00 **
Asian	0.00	4.44	0.00 ****
Native American	0.00	0.73	0.00
Minority	0.00	17.03	0.00 ****
Nonminority female	0.00	12.44	0.00 ****
M/WBE total	0.00	29.48	0.00 ****
Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures (NAICS 7114)			
African American	0.00	14.25	0.00 ****
Hispanic	0.00	3.77	0.00 ****
Asian	0.00	4.97	0.00 ****
Native American	0.00	1.04	0.00
Minority	0.00	24.02	0.00 ****
Nonminority female	0.00	19.46	0.00 ****
M/WBE total	0.00	43.48	0.00 ****
Specialized Freight Trucking (NAICS 4842)			
African American	19.38	24.84	78.01
Hispanic	0.00	7.48	0.00 ****
Asian	0.00	1.87	0.00 ****
Native American	0.00	0.12	0.00 ****
Minority	19.38	34.32	56.47 ****
Nonminority female	38.81	11.65	
M/WBE total	58.19	45.97	
Nondepository Credit Intermediation (NAICS 5222)			
African American	0.00	8.16	0.00 ****
Hispanic	0.00	2.68	0.00 ****
Asian	0.00	3.51	0.00 ****
Native American	0.00	0.57	0.00
Minority	0.00	14.92	0.00 ****
Nonminority female	0.00	10.62	0.00 ****
M/WBE total	0.00	25.53	0.00 ****

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.11. Industry Group Utilization, Availability, and Disparity Results for State of Maryland CSE Contracting (Dollars Awarded)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Motor Vehicle Manufacturing (NAICS 3361)			
African American	0.00	0.11	0.00
Hispanic	0.00	0.04	0.00
Asian	0.00	0.08	0.00
Native American	0.00	0.01	0.00
Minority	0.00	0.25	0.00
Nonminority female	0.00	0.16	0.00
M/WBE total	0.00	0.41	0.00
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	2.03	8.67	23.41 ****
Hispanic	0.00	1.43	0.00 ****
Asian	15.01	5.44	
Native American	0.00	0.38	0.00 ****
Minority	17.04	15.92	
Nonminority female	1.95	11.26	17.35 ****
M/WBE total	18.99	27.17	69.88 ***
Automobile Dealers (NAICS 4411)			
African American	0.09	4.17	2.15 ****
Hispanic	0.00	2.71	0.00 ****
Asian	0.00	2.96	0.00 ****
Native American	0.00	0.05	0.00
Minority	0.09	9.89	0.91 ****
Nonminority female	1.32	10.16	12.99 ****
M/WBE total	1.41	20.05	7.03 ****
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)			
African American	0.32	6.23	5.11 ****
Hispanic	0.00	4.13	0.00 ****
Asian	0.00	7.07	0.00 ****
Native American	0.00	1.19	0.00 ****
Minority	0.32	18.62	1.71 ****
Nonminority female	4.93	6.46	76.37
M/WBE total	5.25	25.08	20.95 ***
Grocery and Related Product Merchant Wholesalers (NAICS 4244)			
African American	0.00	8.57	0.00 ****
Hispanic	9.89	5.42	
Asian	1.98	4.23	46.69
Native American	0.00	1.22	0.00 ****
Minority	11.87	19.44	61.06
Nonminority female	1.48	16.08	9.22 ****
M/WBE total	13.35	35.52	37.58 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Aerospace Product and Parts Manufacturing (NAICS 3364)			
African American	0.00	2.40	0.00 ****
Hispanic	0.02	0.28	7.46
Asian	0.00	0.03	0.00
Native American	0.00	0.07	0.00
Minority	0.02	2.79	0.74
Nonminority female	0.00	3.99	0.00 ****
M/WBE total	0.02	6.78	0.31 ****
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	2.05	0.00 ****
Hispanic	0.00	0.60	0.00 ****
Asian	0.00	1.30	0.00 ****
Native American	0.34	0.02	
Minority	0.34	3.96	8.70 ****
Nonminority female	0.02	9.20	0.23 ****
M/WBE total	0.37	13.16	2.78 ****
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)			
African American	0.00	5.33	0.00 ****
Hispanic	0.00	1.70	0.00 ****
Asian	0.00	3.25	0.00 ****
Native American	0.00	0.68	0.00 ****
Minority	0.00	10.96	0.00 ****
Nonminority female	0.73	11.48	6.35 ****
M/WBE total	0.73	22.44	3.25 ****
Wireless Telecommunications Carriers (except Satellite) (NAICS 5172)			
African American	0.06	9.50	0.62 ****
Hispanic	0.00	3.00	0.00 ****
Asian	0.00	4.55	0.00 ****
Native American	0.00	0.68	0.00 ****
Minority	0.06	17.74	0.33 ****
Nonminority female	0.00	12.18	0.00 ****
M/WBE total	0.06	29.92	0.20 ****
Special Food Services (NAICS 7223)			
African American	0.00	16.60	0.00 ****
Hispanic	0.00	0.53	0.00 ****
Asian	21.58	3.87	
Native American	0.00	0.11	0.00
Minority	21.58	21.12	
Nonminority female	0.00	2.55	0.00 ****
M/WBE total	21.58	23.67	91.14

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Natural Gas Distribution (NAICS 2212)			
African American	0.00	5.63	0.00 ****
Hispanic	0.00	0.00	
Asian	0.00	4.87	0.00 ****
Native American	0.00	0.00	
Minority	0.00	10.50	0.00 ****
Nonminority female	0.00	0.00	
M/WBE total	0.00	10.50	0.00 ****
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.00	4.51	0.00 ****
Hispanic	0.00	1.96	0.00 ****
Asian	0.00	2.93	0.00 ****
Native American	0.00	0.68	0.00 ****
Minority	0.00	10.08	0.00 ****
Nonminority female	1.64	9.21	17.85 ****
M/WBE total	1.64	19.30	8.52 ****
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.00	5.09	0.00 ****
Hispanic	0.00	7.48	0.00 ****
Asian	0.00	1.80	0.00 ****
Native American	0.00	0.01	0.00
Minority	0.00	14.37	0.00 ****
Nonminority female	0.02	14.86	0.16 ****
M/WBE total	0.02	29.23	0.08 ****
Office Supplies, Stationery, and Gift Stores (NAICS 4532)			
African American	0.26	6.29	4.10 **
Hispanic	0.00	0.03	0.00
Asian	9.61	1.59	
Native American	0.00	0.01	0.00
Minority	9.87	7.92	
Nonminority female	29.71	11.88	
M/WBE total	39.57	19.80	
Computer Systems Design and Related Services (NAICS 5415)			
African American	0.16	16.18	0.97 ****
Hispanic	6.12	3.55	
Asian	3.97	14.71	27.02 ****
Native American	0.00	1.24	0.00 ****
Minority	10.25	35.69	28.73 ****
Nonminority female	1.81	12.59	14.40 ****
M/WBE total	12.07	48.27	24.99 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)			
African American	0.00	8.59	0.00 ****
Hispanic	0.00	0.27	0.00 ****
Asian	0.00	5.53	0.00 ****
Native American	0.00	0.13	0.00
Minority	0.00	14.52	0.00 ****
Nonminority female	0.00	11.38	0.00 ****
M/WBE total	0.00	25.90	0.00 ****
Building Equipment Contractors (NAICS 2382)			
African American	28.24	9.18	
Hispanic	1.49	4.77	31.13 ****
Asian	0.00	1.55	0.00 ****
Native American	0.00	0.66	0.00 ****
Minority	29.73	16.16	
Nonminority female	1.51	12.42	12.17 ****
M/WBE total	31.24	28.58	
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)			
African American	0.00	7.80	0.00 ****
Hispanic	0.00	3.73	0.00 ****
Asian	0.00	1.66	0.00 ****
Native American	0.00	1.08	0.00 ****
Minority	0.00	14.27	0.00 ****
Nonminority female	0.00	21.77	0.00 ****
M/WBE total	0.00	36.04	0.00 ****
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)			
African American	4.24	2.51	
Hispanic	0.00	3.86	0.00 ****
Asian	0.00	2.18	0.00 ****
Native American	0.00	1.29	0.00 ****
Minority	4.24	9.83	43.16 ***
Nonminority female	0.00	7.26	0.00 ****
M/WBE total	4.24	17.09	24.83 ****
Computer and Peripheral Equipment Manufacturing (NAICS 3341)			
African American	0.00	13.60	0.00 ****
Hispanic	0.00	3.56	0.00 ****
Asian	0.03	6.07	0.46 ****
Native American	0.00	0.95	0.00 ****
Minority	0.03	24.18	0.12 ****
Nonminority female	0.00	16.37	0.00 ****
M/WBE total	0.03	40.55	0.07 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Software Publishers (NAICS 5112)			
African American	1.13	11.92	9.45 ****
Hispanic	0.00	3.54	0.00 ****
Asian	3.51	8.00	43.90
Native American	0.00	0.28	0.00 ****
Minority	4.64	23.74	19.54 ****
Nonminority female	1.16	13.22	8.78 ****
M/WBE total	5.80	36.96	15.69 ****
Printing and Related Support Activities (NAICS 3231)			
African American	0.02	4.82	0.31 ****
Hispanic	0.00	1.60	0.00 ****
Asian	0.05	5.27	1.03 ****
Native American	0.00	0.98	0.00 ****
Minority	0.07	12.67	0.55 ****
Nonminority female	8.62	17.92	48.07
M/WBE total	8.69	30.59	28.39 **
Electric Power Generation, Transmission and Distribution (NAICS 2211)			
African American	0.00	1.28	0.00 ****
Hispanic	0.00	0.02	0.00
Asian	0.00	1.53	0.00 ****
Native American	0.00	0.94	0.00 ****
Minority	0.00	3.77	0.00 ****
Nonminority female	0.00	7.69	0.00 ****
M/WBE total	0.00	11.47	0.00 ****
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)			
African American	0.00	2.51	0.00 ****
Hispanic	0.00	2.67	0.00 ****
Asian	0.00	1.52	0.00 ****
Native American	2.80	0.55	
Minority	2.80	7.26	38.52
Nonminority female	0.00	4.27	0.00 ****
M/WBE total	2.80	11.52	24.26

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Health and Personal Care Stores (NAICS 4461)			
African American	0.00	13.34	0.00 ****
Hispanic	0.00	2.90	0.00 ****
Asian	0.00	4.68	0.00 ****
Native American	0.00	1.27	0.00 ****
Minority	0.00	22.20	0.00 ****
Nonminority female	0.00	10.11	0.00 ****
M/WBE total	0.00	32.31	0.00 ****
Railroad Rolling Stock Manufacturing (NAICS 3365)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	0.00	
M/WBE total	0.00	0.00	
Other Miscellaneous Manufacturing (NAICS 3399)			
African American	0.00	10.49	0.00 ****
Hispanic	0.00	1.44	0.00 ****
Asian	0.00	1.47	0.00 ****
Native American	0.00	0.12	0.00 ****
Minority	0.00	13.52	0.00 ****
Nonminority female	0.00	25.78	0.00 ****
M/WBE total	0.00	39.30	0.00 ****
Water, Sewage and Other Systems (NAICS 2213)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	50.00	0.00 ****
M/WBE total	0.00	50.00	0.00 ****
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)			
African American	0.00	11.68	0.00 ****
Hispanic	0.00	0.96	0.00 ****
Asian	0.00	4.36	0.00 ****
Native American	0.00	0.39	0.00 ****
Minority	0.00	17.40	0.00 ****
Nonminority female	0.00	16.07	0.00 ****
M/WBE total	0.00	33.47	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)			
African American	0.00	1.33	0.00 ****
Hispanic	0.00	0.05	0.00 ****
Asian	0.00	2.79	0.00 ****
Native American	0.00	0.08	0.00 ****
Minority	0.00	4.24	0.00 ****
Nonminority female	0.40	4.45	8.98 ****
M/WBE total	0.40	8.69	4.60 ****
Paper and Paper Product Merchant Wholesalers (NAICS 4241)			
African American	0.32	14.33	2.26 ****
Hispanic	22.54	1.59	
Asian	0.01	1.28	0.63 ***
Native American	0.00	0.31	0.00
Minority	22.87	17.51	
Nonminority female	0.04	23.00	0.18 ****
M/WBE total	22.91	40.51	56.56
Engine, Turbine, and Power Transmission Equipment Manufacturing (NAICS 3336)			
African American	0.00	0.85	0.00
Hispanic	0.00	0.08	0.00
Asian	0.00	4.32	0.00 ****
Native American	0.00	0.02	0.00
Minority	0.00	5.27	0.00 ****
Nonminority female	0.00	1.01	0.00
M/WBE total	0.00	6.27	0.00 ****
Other Chemical Product and Preparation Manufacturing (NAICS 3259)			
African American	0.00	0.16	0.00
Hispanic	0.00	0.06	0.00
Asian	0.00	11.72	0.00 ****
Native American	0.00	0.01	0.00
Minority	0.00	11.94	0.00 ****
Nonminority female	0.00	0.21	0.00
M/WBE total	0.00	12.15	0.00 ****
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	0.32	13.59	2.35 ****
Hispanic	0.00	3.09	0.00 ****
Asian	0.00	3.70	0.00 ****
Native American	0.00	0.38	0.00 ****
Minority	0.32	20.75	1.54 ****
Nonminority female	0.34	11.87	2.90 ****
M/WBE total	0.66	32.62	2.04 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)			
African American	0.00	8.43	0.00 ****
Hispanic	0.00	1.14	0.00 ****
Asian	0.00	1.41	0.00 ****
Native American	0.00	1.59	0.00 ****
Minority	0.00	12.57	0.00 ****
Nonminority female	24.75	16.75	
M/WBE total	24.75	29.31	84.42
Medical Equipment and Supplies Manufacturing (NAICS 3391)			
African American	0.00	11.44	0.00 ****
Hispanic	0.00	3.75	0.00 ****
Asian	0.00	5.61	0.00 ****
Native American	0.00	0.80	0.00 ****
Minority	0.00	21.60	0.00 ****
Nonminority female	0.00	15.14	0.00 ****
M/WBE total	0.00	36.74	0.00 ****
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)			
African American	0.00	5.98	0.00 ****
Hispanic	0.00	3.35	0.00 ****
Asian	0.00	1.90	0.00 ****
Native American	0.00	0.36	0.00 ****
Minority	0.00	11.59	0.00 ****
Nonminority female	0.00	10.35	0.00 ****
M/WBE total	0.00	21.94	0.00 ****
Bakeries and Tortilla Manufacturing (NAICS 3118)			
African American	0.00	8.81	0.00 ****
Hispanic	0.00	11.77	0.00 ****
Asian	0.00	0.42	0.00
Native American	0.00	0.08	0.00
Minority	0.00	21.08	0.00 ****
Nonminority female	0.00	16.23	0.00 ****
M/WBE total	0.00	37.31	0.00 ****
Automotive Repair and Maintenance (NAICS 8111)			
African American	9.50	10.35	91.87
Hispanic	0.00	6.85	0.00 ****
Asian	0.00	5.14	0.00 ****
Native American	0.00	1.33	0.00 ****
Minority	9.50	23.66	40.17 ***
Nonminority female	0.00	9.47	0.00 ****
M/WBE total	9.50	33.13	28.69 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Specialized Freight Trucking (NAICS 4842)			
African American	8.97	24.84	36.12 ****
Hispanic	5.91	7.48	79.04
Asian	0.00	1.87	0.00 ****
Native American	0.00	0.12	0.00 ****
Minority	14.89	34.32	43.37 ****
Nonminority female	13.15	11.65	
M/WBE total	28.03	45.97	60.98 ****
Building Material and Supplies Dealers (NAICS 4441)			
African American	0.00	5.92	0.00 ****
Hispanic	0.00	0.94	0.00 ****
Asian	0.00	4.17	0.00 ****
Native American	0.00	0.24	0.00 ****
Minority	0.00	11.27	0.00 ****
Nonminority female	0.00	16.83	0.00 ****
M/WBE total	0.00	28.09	0.00 ****
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	6.08	6.87	88.56
Hispanic	0.41	2.03	20.17 ****
Asian	0.38	5.02	7.59 ****
Native American	0.00	1.45	0.00 ****
Minority	6.87	15.37	44.71 ****
Nonminority female	3.32	9.88	33.62 ****
M/WBE total	10.19	25.25	40.37 ****
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)			
African American	0.00	7.68	0.00 ****
Hispanic	0.00	3.45	0.00 ****
Asian	0.00	4.55	0.00 ****
Native American	0.00	0.82	0.00 ****
Minority	0.00	16.49	0.00 ****
Nonminority female	5.59	15.02	37.18 ****
M/WBE total	5.59	31.51	17.72 ****
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)			
African American	0.00	2.08	0.00 ****
Hispanic	0.00	5.21	0.00 ****
Asian	0.00	0.96	0.00 ****
Native American	0.00	0.15	0.00
Minority	0.00	8.39	0.00 ****
Nonminority female	0.00	9.67	0.00 ****
M/WBE total	0.00	18.06	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Seafood Product Preparation and Packaging (NAICS 3117)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	100.00	52.38	
M/WBE total	100.00	52.38	
Electric Lighting Equipment Manufacturing (NAICS 3351)			
African American	0.00	3.22	0.00 ****
Hispanic	0.00	0.06	0.00
Asian	0.07	0.12	60.44
Native American	0.00	5.24	0.00 ****
Minority	0.07	8.64	0.84 ****
Nonminority female	46.58	14.21	
M/WBE total	46.65	22.85	
Electronics and Appliance Stores (NAICS 4431)			
African American	0.48	10.01	4.81 ****
Hispanic	1.68	0.31	
Asian	0.00	3.00	0.00 ****
Native American	0.00	0.29	0.00 ****
Minority	2.16	13.62	15.85 ****
Nonminority female	3.29	15.37	21.40 ****
M/WBE total	5.45	28.99	18.80 ****
Cattle Ranching and Farming (NAICS 1121)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	2.06	0.00 ****
Minority	0.00	2.06	0.00 ****
Nonminority female	0.00	17.26	0.00 ****
M/WBE total	0.00	19.31	0.00 ****
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)			
African American	0.00	5.30	0.00 ****
Hispanic	0.00	2.06	0.00 ****
Asian	16.89	1.32	
Native American	0.00	0.88	0.00 ****
Minority	16.89	9.55	
Nonminority female	35.04	12.35	
M/WBE total	51.94	21.90	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Support Activities for Air Transportation (NAICS 4881)			
African American	0.00	18.32	0.00 ****
Hispanic	0.00	1.91	0.00
Asian	0.00	2.91	0.00 ****
Native American	0.00	0.13	0.00
Minority	0.00	23.27	0.00 ****
Nonminority female	0.00	2.42	0.00
M/WBE total	0.00	25.69	0.00 ****
Scientific Research and Development Services (NAICS 5417)			
African American	0.00	4.78	0.00 ****
Hispanic	0.00	0.89	0.00 ****
Asian	0.00	5.29	0.00 ****
Native American	0.00	2.80	0.00 ****
Minority	0.00	13.77	0.00 ****
Nonminority female	0.43	5.71	7.57 ****
M/WBE total	0.43	19.48	2.22 ****
Wired Telecommunications Carriers (NAICS 5171)			
African American	0.00	14.59	0.00 ****
Hispanic	0.00	0.20	0.00
Asian	0.00	2.02	0.00 ****
Native American	0.00	0.05	0.00
Minority	0.00	16.86	0.00 ****
Nonminority female	0.00	6.34	0.00 ****
M/WBE total	0.00	23.20	0.00 ****
Other General Purpose Machinery Manufacturing (NAICS 3339)			
African American	0.00	12.67	0.00 ****
Hispanic	0.00	2.25	0.00 ****
Asian	0.00	6.50	0.00 ****
Native American	0.00	0.52	0.00 ****
Minority	0.00	21.94	0.00 ****
Nonminority female	0.00	17.26	0.00 ****
M/WBE total	0.00	39.20	0.00 ****
Direct Selling Establishments (NAICS 4543)			
African American	0.00	2.43	0.00 ****
Hispanic	0.00	0.82	0.00 ****
Asian	0.00	0.83	0.00 ****
Native American	0.00	0.01	0.00
Minority	0.00	4.08	0.00 ****
Nonminority female	0.00	8.60	0.00 ****
M/WBE total	0.00	12.68	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Electrical Equipment Manufacturing (NAICS 3353)			
African American	0.00	1.31	0.00 ****
Hispanic	0.00	0.38	0.00
Asian	0.00	0.68	0.00 ****
Native American	0.00	0.12	0.00
Minority	0.00	2.48	0.00 ****
Nonminority female	27.27	9.93	
M/WBE total	27.27	12.41	
Drugs and Druggists' Sundries Merchant Wholesalers (NAICS 4242)			
African American	0.00	8.89	0.00 ****
Hispanic	0.00	3.31	0.00 ****
Asian	0.00	7.70	0.04 ****
Native American	0.00	0.02	0.00
Minority	0.00	19.91	0.02 ****
Nonminority female	5.78	14.10	40.98
M/WBE total	5.78	34.00	17.00
Other Ambulatory Health Care Services (NAICS 6219)			
African American	0.00	13.34	0.00 ****
Hispanic	0.00	3.93	0.00 ****
Asian	78.54	7.38	
Native American	0.00	0.65	0.00
Minority	78.54	25.30	
Nonminority female	0.00	17.53	0.00 ****
M/WBE total	78.54	42.83	
Architectural and Structural Metals Manufacturing (NAICS 3323)			
African American	0.00	2.61	0.00 ****
Hispanic	0.00	0.03	0.00
Asian	0.07	0.04	
Native American	0.00	0.51	0.00 ****
Minority	0.07	3.18	2.16 ****
Nonminority female	20.10	13.01	
M/WBE total	20.16	16.19	
Ship and Boat Building (NAICS 3366)			
African American	0.00	2.12	0.00
Hispanic	0.00	0.93	0.00
Asian	0.00	1.29	0.00
Native American	0.00	0.15	0.00
Minority	0.00	4.49	0.00 ****
Nonminority female	0.00	21.21	0.00 ****
M/WBE total	0.00	25.70	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Semiconductor and Other Electronic Component Manufacturing (NAICS 3344)			
African American	0.00	4.02	0.00 ****
Hispanic	0.00	0.42	0.00
Asian	0.00	0.77	0.00 ****
Native American	0.00	0.13	0.00
Minority	0.00	5.35	0.00 ****
Nonminority female	2.84	8.44	33.70
M/WBE total	2.84	13.79	20.62 **
Other Electrical Equipment and Component Manufacturing (NAICS 3359)			
African American	0.00	14.85	0.00 ****
Hispanic	0.00	3.29	0.00 ****
Asian	0.00	4.41	0.00 ****
Native American	0.00	0.88	0.00 ****
Minority	0.00	23.43	0.00 ****
Nonminority female	0.00	13.13	0.00 ****
M/WBE total	0.00	36.56	0.00 ****
Industrial Machinery Manufacturing (NAICS 3332)			
African American	0.00	0.00	
Hispanic	0.00	7.87	0.00 ****
Asian	0.00	0.00	
Native American	0.00	7.87	0.00 ****
Minority	0.00	15.74	0.00 ****
Nonminority female	0.00	4.86	0.00 ****
M/WBE total	0.00	20.60	0.00 ****
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)			
African American	0.00	13.66	0.00 ****
Hispanic	0.00	3.65	0.00 ****
Asian	0.00	5.34	0.00 ****
Native American	0.00	0.97	0.00 ****
Minority	0.00	23.62	0.00 ****
Nonminority female	1.90	18.18	10.47 ****
M/WBE total	1.90	41.80	4.55 ****
Clothing Stores (NAICS 4481)			
African American	0.00	12.44	0.00 ****
Hispanic	0.00	3.59	0.00 ****
Asian	0.00	5.89	0.00 ****
Native American	0.00	1.00	0.00
Minority	0.00	22.92	0.00 ****
Nonminority female	26.91	18.59	
M/WBE total	26.91	41.51	64.83

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	3.33	13.47	24.75 ****
Hispanic	0.00	2.45	0.00 ****
Asian	1.32	4.92	26.83 ****
Native American	0.00	0.63	0.00 ****
Minority	4.65	21.46	21.69 ****
Nonminority female	4.29	13.82	31.07 ****
M/WBE total	8.95	35.28	25.36 ****
Plastics Product Manufacturing (NAICS 3261)			
African American	0.00	4.34	0.00 ****
Hispanic	0.00	0.78	0.00 ****
Asian	0.00	3.74	0.00 ****
Native American	0.00	0.06	0.00
Minority	0.00	8.92	0.00 ****
Nonminority female	0.37	8.69	4.27 ****
M/WBE total	0.37	17.62	2.11 ****
Pharmaceutical and Medicine Manufacturing (NAICS 3254)			
African American	0.00	9.75	0.00 ****
Hispanic	0.00	2.22	0.00 ****
Asian	0.00	9.21	0.00 ****
Native American	0.00	2.28	0.00 ****
Minority	0.00	23.46	0.00 ****
Nonminority female	0.17	11.71	1.43 ****
M/WBE total	0.17	35.17	0.48 ****
Dairy Product Manufacturing (NAICS 3115)			
African American	0.00	11.03	0.00 ****
Hispanic	0.00	3.51	0.00
Asian	0.00	4.24	0.00
Native American	0.00	0.85	0.00
Minority	0.00	19.63	0.00 ****
Nonminority female	0.00	16.37	0.00 ****
M/WBE total	0.00	36.01	0.00 ****
Beverage Manufacturing (NAICS 3121)			
African American	0.00	13.77	0.00 ****
Hispanic	0.00	1.47	0.00 ****
Asian	0.00	8.45	0.00 ****
Native American	0.00	0.27	0.00
Minority	0.00	23.97	0.00 ****
Nonminority female	3.82	5.24	72.92
M/WBE total	3.82	29.20	13.07 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Fabricated Metal Product Manufacturing (NAICS 3329)			
African American	0.00	2.30	0.00 ****
Hispanic	0.00	1.99	0.00 ****
Asian	0.00	2.74	0.00 ****
Native American	0.00	3.77	0.00 ****
Minority	0.00	10.80	0.00 ****
Nonminority female	1.50	17.88	8.38 ****
M/WBE total	1.50	28.68	5.23 ****
Employment Services (NAICS 5613)			
African American	1.39	10.81	12.89 ****
Hispanic	0.00	2.42	0.00 ****
Asian	0.00	3.97	0.00 ****
Native American	0.00	0.15	0.00 ****
Minority	1.39	17.35	8.03 ****
Nonminority female	58.70	13.45	
M/WBE total	60.09	30.79	
Electronic Shopping and Mail-Order Houses (NAICS 4541)			
African American	0.00	10.50	0.00 ****
Hispanic	0.00	0.00	
Asian	0.00	1.78	0.00
Native American	0.00	1.45	0.00
Minority	0.00	13.72	0.00 ****
Nonminority female	0.00	27.24	0.00 ****
M/WBE total	0.00	40.96	0.00 ****
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)			
African American	0.00	13.29	0.00 ****
Hispanic	0.00	0.80	0.00 ****
Asian	0.00	7.73	0.00 ****
Native American	0.00	0.09	0.00
Minority	0.00	21.91	0.00 ****
Nonminority female	0.00	16.07	0.00 ****
M/WBE total	0.00	37.98	0.00 ****
Hunting and Trapping (NAICS 1142)			
African American	0.00	12.54	0.00 ****
Hispanic	0.00	4.35	0.00 ****
Asian	0.00	4.88	0.00 ****
Native American	0.00	0.94	0.00
Minority	0.00	22.71	0.00 ****
Nonminority female	0.00	18.73	0.00 ****
M/WBE total	0.00	41.44	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Specialty Trade Contractors (NAICS 2389)			
African American	0.00	7.28	0.00 ****
Hispanic	0.21	8.37	2.49 ****
Asian	0.00	4.22	0.00 ****
Native American	0.00	1.50	0.00 ****
Minority	0.21	21.36	0.97 ****
Nonminority female	0.00	12.11	0.00 ****
M/WBE total	0.21	33.47	0.62 ****
Other Information Services (NAICS 5191)			
African American	0.00	17.27	0.00 ****
Hispanic	0.00	0.83	0.00 ****
Asian	0.00	3.39	0.00 ****
Native American	0.00	0.44	0.00
Minority	0.00	21.93	0.00 ****
Nonminority female	0.00	12.82	0.00 ****
M/WBE total	0.00	34.75	0.00 ****
Other Miscellaneous Store Retailers (NAICS 4539)			
African American	0.00	11.81	0.00 ****
Hispanic	0.00	3.65	0.00 ****
Asian	0.00	4.95	0.00 ****
Native American	0.00	0.92	0.00
Minority	0.00	21.33	0.00 ****
Nonminority female	13.12	17.50	74.95
M/WBE total	13.12	38.83	33.79 *
Cut and Sew Apparel Manufacturing (NAICS 3152)			
African American	0.00	21.76	0.00 ****
Hispanic	0.00	2.95	0.00 ****
Asian	1.30	7.28	17.87 **
Native American	0.00	1.42	0.00
Minority	1.30	33.41	3.89 ****
Nonminority female	0.00	16.12	0.00 ****
M/WBE total	1.30	49.53	2.62 ****
Glass and Glass Product Manufacturing (NAICS 3272)			
African American	0.00	9.34	0.00 ****
Hispanic	0.00	7.46	0.00 ****
Asian	0.00	3.51	0.00 ****
Native American	0.00	0.68	0.00
Minority	0.00	20.99	0.00 ****
Nonminority female	0.00	17.66	0.00 ****
M/WBE total	0.00	38.65	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Motor Vehicle Parts Manufacturing (NAICS 3363)			
African American	0.00	7.05	0.00 ****
Hispanic	0.00	2.50	0.00 ****
Asian	0.00	3.26	0.00 ****
Native American	0.00	0.51	0.00
Minority	0.00	13.32	0.00 ****
Nonminority female	0.00	9.47	0.00 ****
M/WBE total	0.00	22.79	0.00 ****
Business Support Services (NAICS 5614)			
African American	0.00	19.11	0.00 ****
Hispanic	0.00	4.83	0.00 ****
Asian	0.00	4.34	0.00 ****
Native American	0.00	5.33	0.00 ****
Minority	0.00	33.61	0.00 ****
Nonminority female	17.98	15.31	
M/WBE total	17.98	48.92	36.76
Investigation and Security Services (NAICS 5616)			
African American	5.96	19.28	30.92 **
Hispanic	0.00	1.10	0.00 ****
Asian	0.00	6.28	0.00 ****
Native American	0.00	0.90	0.00 ****
Minority	5.96	27.56	21.63 ****
Nonminority female	0.00	11.87	0.00 ****
M/WBE total	5.96	39.43	15.12 ****
Consumer Goods Rental (NAICS 5322)			
African American	0.00	12.73	0.00 ****
Hispanic	0.00	3.58	0.00 ****
Asian	0.00	5.21	0.00 ****
Native American	0.00	0.97	0.00 ****
Minority	0.00	22.49	0.00 ****
Nonminority female	0.00	17.70	0.00 ****
M/WBE total	0.00	40.19	0.00 ****
Other Support Activities for Transportation (NAICS 4889)			
African American	0.00	30.32	0.00 ****
Hispanic	0.00	15.93	0.00 ****
Asian	0.00	7.11	0.00 ****
Native American	0.00	0.06	0.00
Minority	0.00	53.42	0.00 ****
Nonminority female	51.83	4.93	
M/WBE total	51.83	58.36	88.81

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)			
African American	0.00	15.50	0.00 ****
Hispanic	0.00	3.99	0.00 ****
Asian	0.00	6.26	0.00 ****
Native American	0.00	0.93	0.00 ****
Minority	0.00	26.68	0.00 ****
Nonminority female	0.00	16.36	0.00 ****
M/WBE total	0.00	43.04	0.00 ****
Traveler Accommodation (NAICS 7211)			
African American	0.00	0.13	0.00
Hispanic	0.00	1.43	0.00 ****
Asian	0.00	10.56	0.00 ****
Native American	0.00	3.60	0.00 ****
Minority	0.00	15.72	0.00 ****
Nonminority female	0.00	9.94	0.00 ****
M/WBE total	0.00	25.65	0.00 ****
Book Stores and News Dealers (NAICS 4512)			
African American	0.00	10.76	0.00 ****
Hispanic	0.00	3.28	0.00 ****
Asian	0.00	4.61	0.00 ****
Native American	0.00	0.93	0.00
Minority	0.00	19.58	0.00 ****
Nonminority female	0.00	17.70	0.00 ****
M/WBE total	0.00	37.29	0.00 ****
Petroleum and Coal Products Manufacturing (NAICS 3241)			
African American	0.00	3.11	0.00 ****
Hispanic	0.00	1.11	0.00 ****
Asian	0.00	1.44	0.00 ****
Native American	0.00	0.22	0.00
Minority	0.00	5.89	0.00 ****
Nonminority female	0.00	19.46	0.00 ****
M/WBE total	0.00	25.35	0.00 ****
Furniture Stores (NAICS 4421)			
African American	0.00	3.83	0.00 ****
Hispanic	0.00	0.05	0.00
Asian	0.00	0.52	0.00
Native American	0.00	1.19	0.00 ****
Minority	0.00	5.59	0.00 ****
Nonminority female	0.00	14.41	0.00 ****
M/WBE total	0.00	20.00	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Facilities Support Services (NAICS 5612)			
African American	0.00	26.39	0.00 ****
Hispanic	0.00	3.77	0.00 ****
Asian	0.00	2.52	0.00 ****
Native American	0.00	1.15	0.00 ****
Minority	0.00	33.83	0.00 ****
Nonminority female	0.00	9.10	0.00 ****
M/WBE total	0.00	42.92	0.00 ****
Services to Buildings and Dwellings (NAICS 5617)			
African American	1.48	18.62	7.95 ****
Hispanic	0.00	4.83	0.00 ****
Asian	0.00	3.45	0.00 ****
Native American	0.00	1.64	0.00 ****
Minority	1.48	28.54	5.19 ****
Nonminority female	6.10	13.17	46.30 ****
M/WBE total	7.58	41.71	18.17 ****
Restaurants and Other Eating Places (NAICS 7225)			
African American	0.00	6.70	0.00 ****
Hispanic	0.00	3.27	0.00 ****
Asian	0.00	7.33	0.00 ****
Native American	0.00	0.45	0.00 ****
Minority	0.00	17.76	0.00 ****
Nonminority female	0.00	11.99	0.00 ****
M/WBE total	0.00	29.75	0.00 ****
Automotive Equipment Rental and Leasing (NAICS 5321)			
African American	0.00	6.00	0.00 ****
Hispanic	0.00	2.00	0.00 ****
Asian	0.00	3.78	0.00 ****
Native American	0.00	0.90	0.00 ****
Minority	0.00	12.68	0.00 ****
Nonminority female	0.00	9.00	0.00 ****
M/WBE total	0.00	21.68	0.00 ****
Support Activities for Rail Transportation (NAICS 4882)			
African American	0.00	18.21	0.00 ****
Hispanic	0.00	12.34	0.00 ****
Asian	0.00	3.80	0.00 ****
Native American	0.00	2.17	0.00 ****
Minority	0.00	36.52	0.00 ****
Nonminority female	0.00	13.75	0.00 ****
M/WBE total	0.00	50.27	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511)			
African American	0.00	11.52	0.00 ****
Hispanic	0.00	3.91	0.00 ****
Asian	0.00	5.11	0.00 ****
Native American	0.00	0.88	0.00
Minority	0.00	21.42	0.00 ****
Nonminority female	0.00	16.73	0.00 ****
M/WBE total	0.00	38.14	0.00 ****
Building Finishing Contractors (NAICS 2383)			
African American	7.92	6.15	0.00 ****
Hispanic	5.48	10.87	50.44 ****
Asian	0.00	3.80	0.00 ****
Native American	0.00	0.08	0.00 ****
Minority	13.41	20.89	64.16 ****
Nonminority female	5.39	11.75	45.86 ****
M/WBE total	18.79	32.64	57.57 ****
Local Messengers and Local Delivery (NAICS 4922)			
African American	0.00	13.55	0.00 ****
Hispanic	0.00	3.26	0.00 ****
Asian	0.00	4.98	0.00 ****
Native American	0.00	0.78	0.00
Minority	0.00	22.57	0.00 ****
Nonminority female	0.00	15.17	0.00 ****
M/WBE total	0.00	37.75	0.00 ****
Poultry and Egg Production (NAICS 1123)			
African American	0.00	14.75	0.00 ****
Hispanic	0.00	3.62	0.00
Asian	0.00	4.77	0.00
Native American	0.00	1.05	0.00
Minority	0.00	24.19	0.00 ****
Nonminority female	0.00	18.06	0.00 ****
M/WBE total	0.00	42.25	0.00 ****
Advertising, Public Relations, and Related Services (NAICS 5418)			
African American	0.00	9.19	0.00 ****
Hispanic	0.00	4.44	0.00 ****
Asian	0.00	2.49	0.00 ****
Native American	0.00	0.52	0.00 ****
Minority	0.00	16.64	0.00 ****
Nonminority female	4.46	25.40	17.57 ****
M/WBE total	4.46	42.04	10.61 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Remediation and Other Waste Management Services (NAICS 5629)			
African American	0.00	7.01	0.00 ****
Hispanic	0.00	1.36	0.00 ****
Asian	0.00	0.10	0.00
Native American	0.00	0.06	0.00
Minority	0.00	8.53	0.00 ****
Nonminority female	0.00	14.42	0.00 ****
M/WBE total	0.00	22.95	0.00 ****
Data Processing, Hosting, and Related Services (NAICS 5182)			
African American	0.00	21.33	0.00 ****
Hispanic	0.00	1.91	0.00 ****
Asian	0.00	5.77	0.00 ****
Native American	0.00	0.14	0.00
Minority	0.00	29.16	0.00 ****
Nonminority female	0.00	15.34	0.00 ****
M/WBE total	0.00	44.50	0.00 ****
Specialty Food Stores (NAICS 4452)			
African American	0.00	0.07	0.00
Hispanic	0.00	0.02	0.00
Asian	0.00	1.68	0.00
Native American	0.00	0.00	0.00
Minority	0.00	1.78	0.00
Nonminority female	0.00	21.47	0.00 ****
M/WBE total	0.00	23.25	0.00 ****
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)			
African American	0.00	5.95	0.00 ****
Hispanic	0.00	2.11	0.00 ****
Asian	0.00	0.41	0.00
Native American	0.00	0.01	0.00
Minority	0.00	8.48	0.00 ****
Nonminority female	0.00	3.20	0.00 ****
M/WBE total	0.00	11.68	0.00 ****
Other Transit and Ground Passenger Transportation (NAICS 4859)			
African American	0.00	29.55	0.00 ****
Hispanic	0.00	4.35	0.00 ****
Asian	0.00	3.85	0.00 ****
Native American	0.00	0.80	0.00
Minority	0.00	38.55	0.00 ****
Nonminority female	0.00	14.10	0.00 ****
M/WBE total	0.00	52.65	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)			
African American	0.00	3.71	0.00 ****
Hispanic	0.00	1.33	0.00 ****
Asian	0.00	1.72	0.00 ****
Native American	0.00	0.27	0.00
Minority	0.00	7.03	0.00 ****
Nonminority female	0.00	9.48	0.00 ****
M/WBE total	0.00	16.51	0.00 ****
Other Motor Vehicle Dealers (NAICS 4412)			
African American	0.00	11.31	0.00 ****
Hispanic	0.00	3.88	0.00 ****
Asian	0.00	4.95	0.00 ****
Native American	0.00	0.87	0.00
Minority	0.00	21.02	0.00 ****
Nonminority female	3.59	16.53	21.69 ****
M/WBE total	3.59	37.55	9.55 ****
Offices of Other Health Practitioners (NAICS 6213)			
African American	0.00	6.96	0.00 ****
Hispanic	0.00	1.58	0.00 ****
Asian	0.00	2.92	0.00 ****
Native American	0.00	1.97	0.00 ****
Minority	0.00	13.43	0.00 ****
Nonminority female	0.00	22.65	0.00 ****
M/WBE total	0.00	36.08	0.00 ****
Medical and Diagnostic Laboratories (NAICS 6215)			
African American	0.00	9.21	0.00 ****
Hispanic	0.00	2.65	0.00 ****
Asian	0.00	4.44	0.00 ****
Native American	0.00	0.73	0.00
Minority	0.00	17.03	0.00 ****
Nonminority female	2.04	12.44	16.37 ****
M/WBE total	2.04	29.48	6.91 ****
Steel Product Manufacturing from Purchased Steel (NAICS 3312)			
African American	0.00	8.35	0.00 ****
Hispanic	0.00	2.98	0.00 ****
Asian	0.00	3.87	0.00 ****
Native American	0.00	0.60	0.00
Minority	0.00	15.80	0.00 ****
Nonminority female	0.00	11.03	0.00 ****
M/WBE total	0.00	26.83	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Nonresidential Building Construction (NAICS 2362)			
African American	0.00	12.17	0.00 ****
Hispanic	13.72	6.74	
Asian	0.00	4.46	0.00 ****
Native American	0.00	2.09	0.00 ****
Minority	13.72	25.46	53.91 ****
Nonminority female	0.00	10.01	0.00 ****
M/WBE total	13.72	35.47	38.69 ****
Apparel, Piece Goods, and Notions Merchant Wholesalers (NAICS 4243)			
African American	0.00	13.30	0.00 ****
Hispanic	0.00	3.55	0.00 ****
Asian	0.00	5.43	0.00 ****
Native American	0.00	1.05	0.00
Minority	0.00	23.33	0.00 ****
Nonminority female	20.97	18.60	
M/WBE total	20.97	41.94	50.00 ***
Other Food Manufacturing (NAICS 3119)			
African American	0.00	13.20	0.00 ****
Hispanic	0.00	3.14	0.00 ****
Asian	0.00	4.44	0.00 ****
Native American	0.00	0.71	0.00
Minority	0.00	21.49	0.00 ****
Nonminority female	0.00	11.60	0.00 ****
M/WBE total	0.00	33.10	0.00 ****
Soap, Cleaning Compound, and Toilet Preparation Manufacturing (NAICS 3256)			
African American	0.99	4.57	21.70
Hispanic	0.15	0.75	19.47
Asian	0.00	1.25	0.00
Native American	0.00	0.24	0.00
Minority	1.14	6.80	16.70
Nonminority female	0.00	60.43	0.00 ****
M/WBE total	1.14	67.24	1.69 ****
Utility System Construction (NAICS 2371)			
African American	0.00	9.16	0.00 ****
Hispanic	0.00	1.81	0.00 ****
Asian	0.00	2.38	0.00 ****
Native American	0.00	1.15	0.00 ****
Minority	0.00	14.49	0.00 ****
Nonminority female	0.00	10.41	0.00 ****
M/WBE total	0.00	24.90	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324)			
African American	0.00	8.61	0.00 ****
Hispanic	0.00	3.07	0.00 ****
Asian	0.00	4.00	0.00 ****
Native American	0.00	0.61	0.00
Minority	0.00	16.29	0.00 ****
Nonminority female	0.00	11.37	0.00 ****
M/WBE total	0.00	27.66	0.00 ****
Nondepository Credit Intermediation (NAICS 5222)			
African American	0.00	9.69	0.00 ****
Hispanic	0.00	3.17	0.00 ****
Asian	0.00	3.79	0.00 ****
Native American	0.00	0.63	0.00
Minority	0.00	17.28	0.00 ****
Nonminority female	0.00	11.80	0.00 ****
M/WBE total	0.00	29.08	0.00 ****
Motion Picture and Video Industries (NAICS 5121)			
African American	0.00	14.52	0.00 ****
Hispanic	0.00	3.33	0.00 ****
Asian	0.00	2.18	0.00 ****
Native American	0.00	0.10	0.00
Minority	0.00	20.14	0.00 ****
Nonminority female	0.00	25.68	0.00 ****
M/WBE total	0.00	45.82	0.00 ****
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)			
African American	0.00	12.67	0.00 ****
Hispanic	0.00	6.33	0.00 ****
Asian	0.00	6.33	0.00 ****
Native American	0.00	0.00	0.00
Minority	0.00	25.34	0.00 ****
Nonminority female	0.00	12.67	0.00 ****
M/WBE total	0.00	38.01	0.00 ****
Vending Machine Operators (NAICS 4542)			
African American	0.00	21.89	0.00 ****
Hispanic	0.00	0.72	0.00
Asian	0.00	4.46	0.00 ****
Native American	0.00	0.01	0.00
Minority	0.00	27.07	0.00 ****
Nonminority female	0.00	7.43	0.00 ****
M/WBE total	0.00	34.49	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Forging and Stamping (NAICS 3321)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	28.89	0.00 ****
M/WBE total	0.00	28.89	0.00 ****
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.04	0.00
Asian	0.00	0.83	0.00
Native American	0.00	2.27	0.00 ****
Minority	0.00	3.34	0.00 ****
Nonminority female	0.00	21.37	0.00 ****
M/WBE total	0.00	24.70	0.00 ****
Metalworking Machinery Manufacturing (NAICS 3335)			
African American	0.00	11.37	0.00 ****
Hispanic	0.00	3.73	0.00 ****
Asian	0.00	6.33	0.00 ****
Native American	0.00	1.09	0.00
Minority	0.00	22.52	0.00 ****
Nonminority female	0.66	17.49	3.76 ****
M/WBE total	0.66	40.00	1.64 ****
Other Support Services (NAICS 5619)			
African American	0.00	18.71	0.00 ****
Hispanic	0.00	2.45	0.00 ****
Asian	0.00	2.57	0.00 ****
Native American	0.00	0.02	0.00
Minority	0.00	23.75	0.00 ****
Nonminority female	20.15	28.54	70.57 *
M/WBE total	20.15	52.30	38.52 ****
Paint, Coating, and Adhesive Manufacturing (NAICS 3255)			
African American	0.00	10.39	0.00 ****
Hispanic	0.00	2.67	0.00 ****
Asian	0.00	4.75	0.00 ****
Native American	0.00	0.78	0.00
Minority	0.00	18.60	0.00 ****
Nonminority female	0.00	19.87	0.00 ****
M/WBE total	0.00	38.47	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)			
African American	47.57	5.99	
Hispanic	0.54	3.58	15.19 ****
Asian	0.00	0.74	0.00 ****
Native American	0.00	1.60	0.00 ****
Minority	48.11	11.91	
Nonminority female	0.00	14.39	0.00 ****
M/WBE total	48.11	26.30	
Other Professional, Scientific, and Technical Services (NAICS 5419)			
African American	0.00	9.17	0.00 ****
Hispanic	0.00	2.80	0.00 ****
Asian	0.00	4.67	0.00 ****
Native American	0.00	1.29	0.00 ****
Minority	0.00	17.94	0.00 ****
Nonminority female	0.00	18.70	0.00 ****
M/WBE total	0.00	36.64	0.00 ****
Motor Vehicle Body and Trailer Manufacturing (NAICS 3362)			
African American	0.00	10.41	0.00
Hispanic	0.00	5.04	0.00
Asian	0.00	4.64	0.00
Native American	0.00	0.81	0.00
Minority	0.00	20.89	0.00 ****
Nonminority female	0.00	16.33	0.00 ****
M/WBE total	0.00	37.22	0.00 ****
Cable and Other Subscription Programming (NAICS 5152)			
African American	0.00	5.49	0.00 ****
Hispanic	0.00	3.55	0.00 ****
Asian	0.00	4.00	0.00 ****
Native American	0.00	0.06	0.00
Minority	0.00	13.10	0.00 ****
Nonminority female	0.00	3.25	0.00 ****
M/WBE total	0.00	16.35	0.00 ****
Basic Chemical Manufacturing (NAICS 3251)			
African American	0.00	8.80	0.00 ****
Hispanic	0.00	2.98	0.00 ****
Asian	8.54	4.32	
Native American	0.00	0.67	0.00
Minority	8.54	16.77	50.91
Nonminority female	0.00	12.90	0.00 ****
M/WBE total	8.54	29.67	28.78 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Offices of Physicians (NAICS 6211)			
African American	0.00	6.70	0.00 ****
Hispanic	0.00	2.32	0.00 ****
Asian	0.00	7.35	0.00 ****
Native American	0.00	3.95	0.00 ****
Minority	0.00	20.32	0.00 ****
Nonminority female	0.00	18.47	0.00 ****
M/WBE total	0.00	38.79	0.00 ****
Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing (NAICS 3253)			
African American	0.00	5.88	0.00
Hispanic	0.00	2.05	0.00
Asian	0.00	3.64	0.00
Native American	0.00	0.55	0.00
Minority	0.00	12.11	0.00 ****
Nonminority female	0.00	7.86	0.00
M/WBE total	0.00	19.97	0.00 ****
Waste Treatment and Disposal (NAICS 5622)			
African American	0.00	8.77	0.00 ****
Hispanic	0.00	2.81	0.00 ****
Asian	0.00	0.97	0.00 ****
Native American	0.00	0.00	
Minority	0.00	12.54	0.00 ****
Nonminority female	0.00	22.25	0.00 ****
M/WBE total	0.00	34.80	0.00 ****
Drycleaning and Laundry Services (NAICS 8123)			
African American	0.00	11.39	0.00 ****
Hispanic	0.00	3.11	0.00 ****
Asian	0.00	12.61	0.00 ****
Native American	0.00	1.04	0.00 ****
Minority	0.00	28.16	0.00 ****
Nonminority female	0.00	17.52	0.00 ****
M/WBE total	0.00	45.68	0.00 ****
Animal Slaughtering and Processing (NAICS 3116)			
African American	0.00	13.43	0.00
Hispanic	0.00	3.69	0.00
Asian	0.00	4.90	0.00
Native American	0.00	0.81	0.00
Minority	0.00	22.83	0.00
Nonminority female	0.00	15.52	0.00
M/WBE total	0.00	38.35	0.00

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Furniture Related Product Manufacturing (NAICS 3379)			
African American	0.00	10.33	0.00 ****
Hispanic	0.00	3.69	0.00 ****
Asian	0.00	4.80	0.00 ****
Native American	0.00	0.74	0.00
Minority	0.00	19.55	0.00 ****
Nonminority female	0.00	13.65	0.00 ****
M/WBE total	0.00	33.20	0.00 ****
Support Activities for Road Transportation (NAICS 4884)			
African American	0.00	6.71	0.00 ****
Hispanic	0.00	9.01	0.00 ****
Asian	0.00	0.15	0.00
Native American	0.00	1.78	0.00 ****
Minority	0.00	17.65	0.00 ****
Nonminority female	0.00	16.46	0.00 ****
M/WBE total	0.00	34.11	0.00 ****
Converted Paper Product Manufacturing (NAICS 3222)			
African American	0.00	15.00	0.00 ****
Hispanic	0.00	2.69	0.00
Asian	0.00	3.61	0.00 ****
Native American	0.00	1.06	0.00
Minority	0.00	22.36	0.00 ****
Nonminority female	0.00	17.52	0.00 ****
M/WBE total	0.00	39.88	0.00 ****
Activities Related to Real Estate (NAICS 5313)			
African American	0.00	4.29	0.00 ****
Hispanic	0.00	1.69	0.00
Asian	0.00	1.66	0.00
Native American	0.00	0.05	0.00
Minority	0.00	7.68	0.00 ****
Nonminority female	0.00	20.64	0.00 ****
M/WBE total	0.00	28.32	0.00 ****
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)			
African American	0.00	18.41	0.00 ****
Hispanic	0.00	0.06	0.00
Asian	0.00	0.13	0.00
Native American	0.00	0.13	0.00
Minority	0.00	18.73	0.00 ****
Nonminority female	0.00	14.64	0.00 ****
M/WBE total	0.00	33.38	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00 ****
Hispanic	0.00	1.99	0.00 ****
Asian	0.00	3.41	0.00 ****
Native American	0.00	0.45	0.00 ****
Minority	0.00	14.61	0.00 ****
Nonminority female	0.00	10.28	0.00 ****
M/WBE total	0.00	24.89	0.00 ****
Spring and Wire Product Manufacturing (NAICS 3326)			
African American	0.00	10.47	0.00 ****
Hispanic	0.00	3.51	0.00 ****
Asian	0.14	4.61	2.98 *
Native American	0.00	0.83	0.00
Minority	0.14	19.41	0.71 ****
Nonminority female	8.54	15.87	53.80
M/WBE total	8.68	35.28	24.59 ****
Outpatient Care Centers (NAICS 6214)			
African American	0.00	0.00	
Hispanic	0.00	0.88	0.00
Asian	0.00	0.88	0.00
Native American	0.00	0.00	
Minority	0.00	1.77	0.00
Nonminority female	0.00	0.00	
M/WBE total	0.00	1.77	0.00
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)			
African American	0.00	1.09	0.00 ****
Hispanic	5.80	2.37	
Asian	0.00	0.01	0.00
Native American	0.00	3.14	0.00 ****
Minority	5.80	6.61	87.68
Nonminority female	0.00	6.87	0.00 ****
M/WBE total	5.80	13.48	43.01
Freight Transportation Arrangement (NAICS 4885)			
African American	0.00	17.82	0.00 ****
Hispanic	0.00	4.09	0.00 ****
Asian	0.00	7.34	0.00 ****
Native American	0.00	0.18	0.00
Minority	0.00	29.44	0.00 ****
Nonminority female	0.00	11.67	0.00 ****
M/WBE total	0.00	41.11	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Aquaculture (NAICS 1125)			
African American	0.00	11.58	0.00 ****
Hispanic	0.00	3.90	0.00
Asian	0.00	5.12	0.00
Native American	0.00	0.91	0.00
Minority	0.00	21.51	0.00 ****
Nonminority female	0.00	17.41	0.00 ****
M/WBE total	0.00	38.92	0.00 ****
Farm Product Raw Material Merchant Wholesalers (NAICS 4245)			
African American	0.00	13.36	0.00 ****
Hispanic	0.00	3.79	0.00
Asian	0.00	5.01	0.00
Native American	0.00	0.89	0.00
Minority	0.00	23.06	0.00 ****
Nonminority female	80.08	16.57	
M/WBE total	80.08	39.63	
Rubber Product Manufacturing (NAICS 3262)			
African American	0.00	13.04	0.00 ****
Hispanic	0.00	3.32	0.00
Asian	0.00	4.41	0.00 ****
Native American	0.00	0.63	0.00
Minority	0.00	21.40	0.00 ****
Nonminority female	0.00	12.03	0.00 ****
M/WBE total	0.00	33.43	0.00 ****
Depository Credit Intermediation (NAICS 5221)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.00	0.00
Asian	0.00	0.42	0.00
Native American	0.00	0.00	0.00
Minority	0.00	0.61	0.00
Nonminority female	0.00	0.44	0.00
M/WBE total	0.00	1.06	0.00 ****
General Freight Trucking (NAICS 4841)			
African American	0.00	14.27	0.00 ****
Hispanic	0.00	4.15	0.00 ****
Asian	0.00	5.16	0.00 ****
Native American	0.00	0.85	0.00
Minority	0.00	24.42	0.00 ****
Nonminority female	51.75	15.91	
M/WBE total	51.75	40.33	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Audio and Video Equipment Manufacturing (NAICS 3343)			
African American	0.00	15.37	0.00 ****
Hispanic	0.00	3.02	0.00 ****
Asian	0.00	6.87	0.00 ****
Native American	0.00	0.86	0.00
Minority	0.00	26.11	0.00 ****
Nonminority female	0.00	16.75	0.00 ****
M/WBE total	0.00	42.86	0.00 ****
Fruit and Vegetable Preserving and Specialty Food Manufacturing (NAICS 3114)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	0.00	
M/WBE total	0.00	0.00	
Other Telecommunications (NAICS 5179)			
African American	0.00	13.02	0.00 ****
Hispanic	0.00	3.91	0.00 ****
Asian	0.00	5.24	0.00 ****
Native American	0.00	0.92	0.00
Minority	0.00	23.09	0.00 ****
Nonminority female	0.00	16.58	0.00 ****
M/WBE total	0.00	39.66	0.00 ****
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)			
African American	0.00	8.56	0.00 ****
Hispanic	0.00	0.75	0.00 ****
Asian	0.00	1.35	0.00 ****
Native American	0.14	0.07	
Minority	0.14	10.73	1.26 ****
Nonminority female	0.00	14.61	0.00 ****
M/WBE total	0.14	25.34	0.53 ****
Other Wood Product Manufacturing (NAICS 3219)			
African American	0.00	11.67	0.00 ****
Hispanic	0.00	3.73	0.00 ****
Asian	0.00	4.95	0.00 ****
Native American	0.00	0.98	0.00 ****
Minority	0.00	21.33	0.00 ****
Nonminority female	41.36	19.25	
M/WBE total	41.36	40.58	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Cement and Concrete Product Manufacturing (NAICS 3273)			
African American	0.00	2.25	0.00 ****
Hispanic	0.00	2.66	0.00 ****
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	4.91	0.00 ****
Nonminority female	0.00	13.30	0.00 ****
M/WBE total	0.00	18.20	0.00 ****
Travel Arrangement and Reservation Services (NAICS 5615)			
African American	0.00	12.80	0.00 ****
Hispanic	0.00	3.83	0.00 ****
Asian	0.00	5.23	0.00 ****
Native American	0.00	1.02	0.00
Minority	0.00	22.89	0.00 ****
Nonminority female	14.57	18.97	76.79
M/WBE total	14.57	41.86	34.81
Lime and Gypsum Product Manufacturing (NAICS 3274)			
African American	0.00	7.65	0.00
Hispanic	0.00	2.73	0.00
Asian	0.00	3.55	0.00
Native American	0.00	0.55	0.00
Minority	0.00	14.48	0.00
Nonminority female	0.00	10.11	0.00
M/WBE total	0.00	24.59	0.00
Support Activities for Animal Production (NAICS 1152)			
African American	0.00	11.87	0.00
Hispanic	0.00	3.48	0.00
Asian	0.00	4.86	0.00
Native American	0.00	1.10	0.00
Minority	0.00	21.31	0.00 ****
Nonminority female	0.00	21.83	0.00 ****
M/WBE total	0.00	43.14	0.00 ****
Legal Services (NAICS 5411)			
African American	52.37	5.16	
Hispanic	0.00	3.53	0.00 ****
Asian	0.00	0.26	0.00
Native American	0.00	0.04	0.00
Minority	52.37	9.00	
Nonminority female	34.86	21.42	
M/WBE total	87.23	30.42	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Educational Support Services (NAICS 6117)			
African American	0.00	25.75	0.00 ****
Hispanic	0.00	0.71	0.00
Asian	0.00	3.31	0.00 ****
Native American	0.00	2.37	0.00 ****
Minority	0.00	32.14	0.00 ****
Nonminority female	0.00	10.40	0.00 ****
M/WBE total	0.00	42.54	0.00 ****
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)			
African American	0.00	10.28	0.00 ****
Hispanic	0.00	0.06	0.00
Asian	0.00	7.17	0.00 ****
Native American	0.00	0.04	0.00
Minority	0.00	17.55	0.00 ****
Nonminority female	63.51	18.00	
M/WBE total	63.51	35.55	
Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing (NAICS 3252)			
African American	0.00	6.87	0.00 ****
Hispanic	0.00	0.04	0.00
Asian	0.00	0.07	0.00
Native American	0.00	0.07	0.00
Minority	0.00	7.05	0.00 ****
Nonminority female	0.00	8.03	0.00 ****
M/WBE total	0.00	15.08	0.00 ****
Offices of Dentists (NAICS 6212)			
African American	0.00	6.41	0.00 *
Hispanic	0.00	2.30	0.00
Asian	0.00	10.10	0.00 ****
Native American	0.00	1.80	0.00
Minority	0.00	20.61	0.00 ****
Nonminority female	0.00	17.54	0.00 ****
M/WBE total	0.00	38.15	0.00 ****
Other Amusement and Recreation Industries (NAICS 7139)			
African American	0.00	12.46	0.00 ****
Hispanic	0.00	3.80	0.00 ****
Asian	0.00	5.05	0.00 ****
Native American	0.00	0.95	0.00
Minority	0.00	22.26	0.00 ****
Nonminority female	0.00	18.00	0.00 ****
M/WBE total	0.00	40.26	0.00 ****

Source and Notes: See Table 6.4.

Appendix E. Detailed Utilization, Availability & Disparity Tables

Table AE.12. Industry Group Utilization, Availability, and Disparity Results for State of Maryland CSE Contracting (Dollars Paid)

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Motor Vehicle Manufacturing (NAICS 3361)			
African American	0.00	0.04	0.00
Hispanic	0.00	0.01	0.00
Asian	0.00	0.03	0.00
Native American	0.00	0.00	0.00
Minority	0.00	0.09	0.00
Nonminority female	0.00	0.06	0.00
M/WBE total	0.00	0.15	0.00
Professional and Commercial Equipment and Supplies Merchant Wholesalers (NAICS 4234)			
African American	1.51	9.15	16.51 ****
Hispanic	0.00	1.40	0.00 ****
Asian	15.50	5.29	
Native American	0.00	0.41	0.00 ****
Minority	17.01	16.24	
Nonminority female	2.05	11.23	18.21 ****
M/WBE total	19.05	27.47	69.36 ***
Automobile Dealers (NAICS 4411)			
African American	0.48	4.17	11.53 ****
Hispanic	0.00	2.71	0.00 ****
Asian	0.00	2.96	0.00 ****
Native American	0.00	0.05	0.00
Minority	0.48	9.89	4.86 ****
Nonminority female	0.52	10.16	5.11 ****
M/WBE total	1.00	20.05	4.99 ****
Aerospace Product and Parts Manufacturing (NAICS 3364)			
African American	0.00	2.40	0.00 ***
Hispanic	0.02	0.28	7.46
Asian	0.00	0.03	0.00
Native American	0.00	0.07	0.00
Minority	0.02	2.79	0.74
Nonminority female	0.00	3.99	0.00 ****
M/WBE total	0.02	6.78	0.31 ****
Grocery and Related Product Merchant Wholesalers (NAICS 4244)			
African American	0.00	8.90	0.00 ****
Hispanic	13.25	5.29	
Asian	0.83	4.48	18.41 ***
Native American	0.00	1.15	0.00 ****
Minority	14.08	19.83	71.01
Nonminority female	3.43	16.37	20.94 ****
M/WBE total	17.51	36.20	48.36 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS 3345)			
African American	0.00	1.83	0.00 ****
Hispanic	0.00	0.69	0.00 ****
Asian	0.00	1.31	0.00 ****
Native American	0.39	0.01	
Minority	0.39	3.84	10.09 ****
Nonminority female	0.02	9.70	0.24 ****
M/WBE total	0.41	13.54	3.04 ****
Special Food Services (NAICS 7223)			
African American	0.00	16.58	0.00 ****
Hispanic	0.00	0.52	0.00 ****
Asian	21.84	3.88	
Native American	0.00	0.11	0.00
Minority	21.84	21.09	
Nonminority female	0.00	2.50	0.00 ****
M/WBE total	21.84	23.59	92.58
Chemical and Allied Products Merchant Wholesalers (NAICS 4246)			
African American	0.49	6.23	7.86 *
Hispanic	0.00	4.13	0.00 ****
Asian	0.00	7.07	0.00 ****
Native American	0.00	1.19	0.00 ****
Minority	0.49	18.62	2.63 ****
Nonminority female	6.37	6.46	98.52
M/WBE total	6.86	25.08	27.34 **
Communications Equipment Manufacturing (NAICS 3342)			
African American	0.00	5.24	0.00 ****
Hispanic	0.00	6.97	0.00 ****
Asian	0.00	2.03	0.00 ****
Native American	0.00	0.01	0.00
Minority	0.00	14.24	0.00 ****
Nonminority female	0.03	14.12	0.19 ****
M/WBE total	0.03	28.37	0.09 ****
Household Appliances and Electrical and Electronic Goods Merchant Wholesalers (NAICS 4236)			
African American	0.00	4.56	0.00 ****
Hispanic	0.00	1.83	0.00 ****
Asian	0.00	2.84	0.00 ****
Native American	0.00	0.72	0.00 ****
Minority	0.00	9.95	0.00 ****
Nonminority female	1.96	9.18	21.34 ****
M/WBE total	1.96	19.13	10.24 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Machinery, Equipment, and Supplies Merchant Wholesalers (NAICS 4238)			
African American	0.00	5.34	0.00 ****
Hispanic	0.00	1.59	0.00 ****
Asian	0.00	3.77	0.00 ****
Native American	0.00	0.70	0.00 ****
Minority	0.00	11.39	0.00 ****
Nonminority female	1.03	11.30	9.10 ****
M/WBE total	1.03	22.69	4.53 ****
Natural Gas Distribution (NAICS 2212)			
African American	0.00	5.63	0.00 ****
Hispanic	0.00	0.00	
Asian	0.00	4.87	0.00 ****
Native American	0.00	0.00	
Minority	0.00	10.50	0.00 ****
Nonminority female	0.00	0.00	
M/WBE total	0.00	10.50	0.00 ****
Wireless Telecommunications Carriers (except Satellite) (NAICS 5172)			
African American	0.09	9.50	0.98 ****
Hispanic	0.00	3.00	0.00 ****
Asian	0.00	4.55	0.00 ****
Native American	0.00	0.68	0.00 ****
Minority	0.09	17.74	0.53 ****
Nonminority female	0.00	12.18	0.00 ****
M/WBE total	0.09	29.92	0.31 ****
Office Supplies, Stationery, and Gift Stores (NAICS 4532)			
African American	0.30	6.29	4.77
Hispanic	0.00	0.03	0.00
Asian	1.03	1.59	64.98
Native American	0.00	0.01	0.00
Minority	1.33	7.92	16.85
Nonminority female	27.00	11.88	
M/WBE total	28.33	19.80	
Computer Systems Design and Related Services (NAICS 5415)			
African American	0.17	16.22	1.04 ****
Hispanic	6.60	3.53	
Asian	4.28	14.69	29.11 ****
Native American	0.00	1.24	0.00 ****
Minority	11.05	35.68	30.97 ****
Nonminority female	1.88	12.57	14.93 ****
M/WBE total	12.93	48.26	26.79 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Building Equipment Contractors (NAICS 2382)			
African American	29.77	9.11	
Hispanic	0.00	4.75	0.00 ****
Asian	0.00	1.55	0.00 ****
Native American	0.00	0.65	0.00 ****
Minority	29.77	16.06	
Nonminority female	1.21	12.42	9.73 ****
M/WBE total	30.97	28.48	
Petroleum and Petroleum Products Merchant Wholesalers (NAICS 4247)			
African American	0.00	8.55	0.00 ****
Hispanic	0.00	0.23	0.00 **
Asian	0.00	5.55	0.00 ****
Native American	0.00	0.12	0.00
Minority	0.00	14.44	0.00 ****
Nonminority female	0.00	11.32	0.00 ****
M/WBE total	0.00	25.76	0.00 ****
Miscellaneous Nondurable Goods Merchant Wholesalers (NAICS 4249)			
African American	0.00	7.90	0.00 ****
Hispanic	0.00	3.79	0.00 ****
Asian	0.00	1.63	0.00 ****
Native American	0.00	1.05	0.00 ****
Minority	0.00	14.38	0.00 ****
Nonminority female	0.00	22.56	0.00 ****
M/WBE total	0.00	36.94	0.00 ****
Computer and Peripheral Equipment Manufacturing (NAICS 3341)			
African American	0.00	13.60	0.00 ****
Hispanic	0.00	3.55	0.00 ****
Asian	0.03	6.09	0.49 ****
Native American	0.00	0.96	0.00 ****
Minority	0.03	24.20	0.12 ****
Nonminority female	0.00	16.39	0.00 ****
M/WBE total	0.03	40.59	0.07 ****
Software Publishers (NAICS 5112)			
African American	1.22	11.92	10.22 ****
Hispanic	0.00	3.54	0.00 ****
Asian	0.52	8.00	6.48 ****
Native American	0.00	0.28	0.00 ****
Minority	1.74	23.74	7.31 ****
Nonminority female	1.26	13.22	9.50 ****
M/WBE total	2.99	36.96	8.09 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers (NAICS 4231)			
African American	4.21	2.10	
Hispanic	0.00	3.74	0.00 ****
Asian	0.00	2.23	0.00 ****
Native American	0.00	1.25	0.00 ****
Minority	4.21	9.32	45.19
Nonminority female	0.00	7.11	0.00 ****
M/WBE total	4.21	16.43	25.63 ****
Railroad Rolling Stock Manufacturing (NAICS 3365)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	0.00	
M/WBE total	0.00	0.00	
Commercial and Service Industry Machinery Manufacturing (NAICS 3333)			
African American	0.00	11.72	0.00 ****
Hispanic	0.00	1.02	0.00 ****
Asian	0.00	4.53	0.00 ****
Native American	0.00	0.41	0.00 ***
Minority	0.00	17.68	0.00 ****
Nonminority female	0.00	16.06	0.00 ****
M/WBE total	0.00	33.75	0.00 ****
Paper and Paper Product Merchant Wholesalers (NAICS 4241)			
African American	0.03	14.37	0.24 ****
Hispanic	23.26	1.53	
Asian	0.01	1.18	0.72
Native American	0.00	0.30	0.00
Minority	23.30	17.37	
Nonminority female	0.04	23.29	0.18 ****
M/WBE total	23.35	40.66	57.41
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (NAICS 4237)			
African American	0.00	1.32	0.00 ****
Hispanic	0.00	0.04	0.00
Asian	0.00	2.79	0.00 ****
Native American	0.00	0.07	0.00 ***
Minority	0.00	4.22	0.00 ****
Nonminority female	0.42	4.41	9.62 ****
M/WBE total	0.42	8.62	4.91 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Engine, Turbine, and Power Transmission Equipment Manufacturing (NAICS 3336)			
African American	0.00	0.62	0.00
Hispanic	0.00	0.00	
Asian	0.00	4.32	0.00
Native American	0.00	0.00	
Minority	0.00	4.94	0.00
Nonminority female	0.00	0.62	0.00
M/WBE total	0.00	5.56	0.00
Printing and Related Support Activities (NAICS 3231)			
African American	0.02	4.82	0.47 ****
Hispanic	0.00	1.60	0.00 ****
Asian	0.08	5.27	1.55 ****
Native American	0.00	0.98	0.00 ****
Minority	0.10	12.67	0.82 ****
Nonminority female	8.45	17.92	47.12
M/WBE total	8.55	30.59	27.95
Other Miscellaneous Manufacturing (NAICS 3399)			
African American	0.00	12.59	0.00 ****
Hispanic	0.00	1.24	0.00 ****
Asian	0.00	1.55	0.00 ****
Native American	0.00	0.13	0.00 *
Minority	0.00	15.50	0.00 ****
Nonminority female	0.00	24.96	0.00 ****
M/WBE total	0.00	40.46	0.00 ****
Electric Power Generation, Transmission and Distribution (NAICS 2211)			
African American	0.00	1.22	0.00 ****
Hispanic	0.00	0.01	0.00
Asian	0.00	1.80	0.00 ****
Native American	0.00	1.11	0.00 ****
Minority	0.00	4.14	0.00 ****
Nonminority female	0.00	8.17	0.00 ****
M/WBE total	0.00	12.31	0.00 ****
Specialized Freight Trucking (NAICS 4842)			
African American	9.42	24.84	37.93 ****
Hispanic	5.40	7.48	72.21
Asian	0.00	1.87	0.00 ****
Native American	0.00	0.12	0.00 ****
Minority	14.83	34.32	43.20 ****
Nonminority female	9.73	11.65	83.54
M/WBE total	24.56	45.97	53.42 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Medical Equipment and Supplies Manufacturing (NAICS 3391)			
African American	0.00	11.48	0.00 ****
Hispanic	0.00	3.71	0.00 ****
Asian	0.00	5.62	0.00 ****
Native American	0.00	0.81	0.00 **
Minority	0.00	21.61	0.00 ****
Nonminority female	0.00	15.37	0.00 ****
M/WBE total	0.00	36.98	0.00 ****
Automotive Parts, Accessories, and Tire Stores (NAICS 4413)			
African American	0.00	2.36	0.00 **
Hispanic	0.00	0.98	0.00 **
Asian	0.00	1.25	0.00 **
Native American	5.02	0.70	
Minority	5.02	5.29	95.05
Nonminority female	0.00	3.32	0.00 ****
M/WBE total	5.02	8.60	58.39
Newspaper, Periodical, Book, and Directory Publishers (NAICS 5111)			
African American	0.00	6.74	0.00 ****
Hispanic	0.00	1.03	0.00 ****
Asian	0.00	1.34	0.00 ****
Native American	0.00	1.38	0.00 ****
Minority	0.00	10.50	0.00 ****
Nonminority female	8.33	16.01	52.04
M/WBE total	8.33	26.50	31.43 ****
Bakeries and Tortilla Manufacturing (NAICS 3118)			
African American	0.00	8.73	0.00 ****
Hispanic	0.00	11.97	0.00 ****
Asian	0.00	0.31	0.00
Native American	0.00	0.06	0.00
Minority	0.00	21.07	0.00 ****
Nonminority female	0.00	16.15	0.00 ****
M/WBE total	0.00	37.22	0.00 ****
Architectural, Engineering, and Related Services (NAICS 5413)			
African American	6.59	7.03	93.83
Hispanic	0.44	2.06	21.52 ****
Asian	0.41	4.97	8.32 ****
Native American	0.00	1.40	0.00 ****
Minority	7.45	15.47	48.19 ****
Nonminority female	3.55	10.08	35.23 ****
M/WBE total	11.00	25.54	43.08 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Health and Personal Care Stores (NAICS 4461)			
African American	0.00	13.34	0.00 ****
Hispanic	0.00	2.91	0.00 ****
Asian	0.00	4.69	0.00 ****
Native American	0.00	1.27	0.00 ****
Minority	0.00	22.21	0.00 ****
Nonminority female	0.00	10.15	0.00 ****
M/WBE total	0.00	32.36	0.00 ****
Miscellaneous Durable Goods Merchant Wholesalers (NAICS 4239)			
African American	0.00	5.90	0.00 ****
Hispanic	0.00	3.13	0.00 ****
Asian	0.00	3.92	0.00 ****
Native American	0.00	1.25	0.00 ****
Minority	0.00	14.20	0.00 ****
Nonminority female	3.53	13.48	26.22 ****
M/WBE total	3.53	27.67	12.77 ****
Commercial and Industrial Machinery and Equipment Rental and Leasing (NAICS 5324)			
African American	0.00	6.04	0.00 ****
Hispanic	0.00	3.35	0.00 ****
Asian	0.00	1.93	0.00 ****
Native American	0.00	0.37	0.00 ****
Minority	0.00	11.69	0.00 ****
Nonminority female	0.00	10.41	0.00 ****
M/WBE total	0.00	22.10	0.00 ****
Other Chemical Product and Preparation Manufacturing (NAICS 3259)			
African American	0.00	0.16	0.00
Hispanic	0.00	0.06	0.00
Asian	0.00	11.72	0.00 ****
Native American	0.00	0.01	0.00
Minority	0.00	11.94	0.00 ****
Nonminority female	0.00	0.21	0.00
M/WBE total	0.00	12.15	0.00 ****
Electric Lighting Equipment Manufacturing (NAICS 3351)			
African American	0.00	3.05	0.00 ****
Hispanic	0.00	0.06	0.00
Asian	0.08	0.11	67.85
Native American	0.00	5.34	0.00 ****
Minority	0.08	8.56	0.90 ****
Nonminority female	49.42	14.02	
M/WBE total	49.49	22.58	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Cattle Ranching and Farming (NAICS 1121)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	2.06	0.00 *
Minority	0.00	2.06	0.00 *
Nonminority female	0.00	17.26	0.00 ****
M/WBE total	0.00	19.31	0.00 ****
Electronics and Appliance Stores (NAICS 4431)			
African American	0.52	10.01	5.15 ****
Hispanic	1.79	0.31	
Asian	0.00	3.00	0.00 ****
Native American	0.00	0.29	0.00 **
Minority	2.31	13.62	16.95 ****
Nonminority female	3.08	15.37	20.01 ****
M/WBE total	5.38	28.99	18.58 ****
Support Activities for Air Transportation (NAICS 4881)			
African American	0.00	18.32	0.00 ****
Hispanic	0.00	1.91	0.00
Asian	0.00	2.91	0.00 ****
Native American	0.00	0.13	0.00
Minority	0.00	23.27	0.00 ****
Nonminority female	0.00	2.42	0.00
M/WBE total	0.00	25.69	0.00 ****
Agriculture, Construction, and Mining Machinery Manufacturing (NAICS 3331)			
African American	0.00	2.24	0.00 ****
Hispanic	0.00	6.25	0.00 ****
Asian	0.00	1.04	0.00 ****
Native American	0.00	0.16	0.00
Minority	0.00	9.68	0.00 ****
Nonminority female	0.00	10.35	0.00 ****
M/WBE total	0.00	20.04	0.00 ****
Seafood Product Preparation and Packaging (NAICS 3117)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	100.00	52.38	
M/WBE total	100.00	52.38	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Scientific Research and Development Services (NAICS 5417)			
African American	0.00	4.78	0.00 ****
Hispanic	0.00	0.89	0.00 ****
Asian	0.00	5.29	0.00 ****
Native American	0.00	2.80	0.00 ****
Minority	0.00	13.77	0.00 ****
Nonminority female	0.53	5.71	9.33 ****
M/WBE total	0.53	19.48	2.73 ****
Electrical Equipment Manufacturing (NAICS 3353)			
African American	0.00	1.31	0.00 **
Hispanic	0.00	0.38	0.00
Asian	0.00	0.68	0.00 **
Native American	0.00	0.12	0.00
Minority	0.00	2.47	0.00 ****
Nonminority female	27.66	9.95	
M/WBE total	27.66	12.42	
Building Material and Supplies Dealers (NAICS 4441)			
African American	0.00	5.58	0.00 ****
Hispanic	0.00	0.49	0.00 ****
Asian	0.00	4.63	0.00 ****
Native American	0.00	0.13	0.00 ***
Minority	0.00	10.83	0.00 ****
Nonminority female	0.00	19.37	0.00 ****
M/WBE total	0.00	30.20	0.00 ****
Water, Sewage and Other Systems (NAICS 2213)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	50.00	0.00 ****
M/WBE total	0.00	50.00	0.00 ****
Other Ambulatory Health Care Services (NAICS 6219)			
African American	0.00	13.34	0.00 ****
Hispanic	0.00	3.93	0.00
Asian	84.70	7.38	
Native American	0.00	0.65	0.00
Minority	84.70	25.30	
Nonminority female	0.00	17.53	0.00 ****
M/WBE total	84.70	42.83	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Drugs and Druggists' Sundries Merchant Wholesalers (NAICS 4242)			
African American	0.00	8.89	0.00 ****
Hispanic	0.00	3.31	0.00 ****
Asian	0.00	7.70	0.05 ****
Native American	0.00	0.02	0.00
Minority	0.00	19.91	0.02 ****
Nonminority female	5.27	14.10	37.42
M/WBE total	5.28	34.00	15.52 ****
Ship and Boat Building (NAICS 3366)			
African American	0.00	2.30	0.00 **
Hispanic	0.00	1.01	0.00
Asian	0.00	1.40	0.00
Native American	0.00	0.16	0.00
Minority	0.00	4.87	0.00 **
Nonminority female	0.00	20.83	0.00 ****
M/WBE total	0.00	25.70	0.00 ****
Industrial Machinery Manufacturing (NAICS 3332)			
African American	0.00	0.11	0.00
Hispanic	0.00	7.52	0.00 ****
Asian	0.00	0.05	0.00
Native American	0.00	7.49	0.00 ****
Minority	0.00	15.18	0.00 ****
Nonminority female	0.00	4.77	0.00 ****
M/WBE total	0.00	19.95	0.00 ****
Lumber and Other Construction Materials Merchant Wholesalers (NAICS 4233)			
African American	0.00	5.40	0.00 ****
Hispanic	0.00	2.25	0.00 ****
Asian	0.56	1.44	39.17
Native American	0.00	0.59	0.00 ****
Minority	0.56	9.68	5.81 ****
Nonminority female	56.20	12.85	
M/WBE total	56.77	22.53	
Direct Selling Establishments (NAICS 4543)			
African American	0.00	2.43	0.00 ****
Hispanic	0.00	0.82	0.00
Asian	0.00	0.83	0.00
Native American	0.00	0.01	0.00
Minority	0.00	4.08	0.00 ****
Nonminority female	0.00	8.60	0.00 ****
M/WBE total	0.00	12.68	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Electrical Equipment and Component Manufacturing (NAICS 3359)			
African American	0.00	14.87	0.00 ****
Hispanic	0.00	3.28	0.00 ****
Asian	0.00	4.40	0.00 ****
Native American	0.00	0.88	0.00 ****
Minority	0.00	23.43	0.00 ****
Nonminority female	0.00	13.11	0.00 ****
M/WBE total	0.00	36.55	0.00 ****
Other General Purpose Machinery Manufacturing (NAICS 3339)			
African American	0.00	13.57	0.00 ****
Hispanic	0.00	2.09	0.00 ****
Asian	0.00	6.00	0.00 ****
Native American	0.00	0.47	0.00
Minority	0.00	22.12	0.00 ****
Nonminority female	0.00	17.58	0.00 ****
M/WBE total	0.00	39.70	0.00 ****
Automotive Repair and Maintenance (NAICS 8111)			
African American	0.00	10.13	0.00 ****
Hispanic	0.00	6.33	0.00 ****
Asian	0.00	5.89	0.00 ****
Native American	0.00	1.02	0.00 ***
Minority	0.00	23.37	0.00 ****
Nonminority female	0.00	9.84	0.00 ****
M/WBE total	0.00	33.21	0.00 ****
Semiconductor and Other Electronic Component Manufacturing (NAICS 3344)			
African American	0.00	4.81	0.00 ****
Hispanic	0.00	0.76	0.00 ***
Asian	0.00	1.27	0.00 ***
Native American	0.00	0.21	0.00
Minority	0.00	7.04	0.00 ****
Nonminority female	3.73	9.13	40.80
M/WBE total	3.73	16.18	23.03 **
Dairy Product Manufacturing (NAICS 3115)			
African American	0.00	11.40	0.00 ****
Hispanic	0.00	3.60	0.00
Asian	0.00	4.24	0.00
Native American	0.00	0.86	0.00
Minority	0.00	20.11	0.00 ****
Nonminority female	0.00	16.65	0.00 ****
M/WBE total	0.00	36.76	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Furniture and Home Furnishing Merchant Wholesalers (NAICS 4232)			
African American	0.00	13.82	0.00 ****
Hispanic	0.00	3.65	0.00 ****
Asian	0.00	5.29	0.00 ****
Native American	0.00	0.97	0.00 ****
Minority	0.00	23.74	0.00 ****
Nonminority female	2.23	18.33	12.17 ****
M/WBE total	2.23	42.07	5.30 ****
Wired Telecommunications Carriers (NAICS 5171)			
African American	0.00	14.59	0.00 ****
Hispanic	0.00	0.20	0.00
Asian	0.00	2.02	0.00 ****
Native American	0.00	0.05	0.00
Minority	0.00	16.86	0.00 ****
Nonminority female	0.00	6.34	0.00 ****
M/WBE total	0.00	23.20	0.00 ****
Management, Scientific, and Technical Consulting Services (NAICS 5416)			
African American	3.05	13.46	22.68 ****
Hispanic	0.00	2.43	0.00 ****
Asian	1.50	4.98	30.10 **
Native American	0.00	0.64	0.00 ****
Minority	4.55	21.51	21.16 ****
Nonminority female	4.87	13.85	35.18 ***
M/WBE total	9.42	35.36	26.65 ****
Architectural and Structural Metals Manufacturing (NAICS 3323)			
African American	0.00	2.39	0.00 ****
Hispanic	0.00	0.03	0.00
Asian	0.10	0.04	
Native American	0.00	0.58	0.00 ****
Minority	0.10	3.04	3.25 ****
Nonminority female	25.97	13.46	
M/WBE total	26.07	16.50	
Employment Services (NAICS 5613)			
African American	1.09	10.85	10.06 ****
Hispanic	0.00	2.42	0.00 ****
Asian	0.00	3.99	0.00 ****
Native American	0.00	0.15	0.00 ***
Minority	1.09	17.42	6.27 ****
Nonminority female	60.44	13.48	
M/WBE total	61.53	30.90	

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Household and Institutional Furniture and Kitchen Cabinet Manufacturing (NAICS 3371)			
African American	0.00	13.29	0.00 ****
Hispanic	0.00	0.80	0.00 ***
Asian	0.00	7.73	0.00 ****
Native American	0.00	0.09	0.00
Minority	0.00	21.91	0.00 ****
Nonminority female	0.00	16.07	0.00 ****
M/WBE total	0.00	37.98	0.00 ****
Plastics Product Manufacturing (NAICS 3261)			
African American	0.00	4.89	0.00 ****
Hispanic	0.00	0.99	0.00 **
Asian	0.00	4.26	0.00 ****
Native American	0.00	0.13	0.00
Minority	0.00	10.26	0.00 ****
Nonminority female	0.49	9.45	5.15 ****
M/WBE total	0.49	19.71	2.47 ****
Hunting and Trapping (NAICS 1142)			
African American	0.00	12.54	0.00 ****
Hispanic	0.00	4.35	0.00 ****
Asian	0.00	4.88	0.00 ****
Native American	0.00	0.94	0.00
Minority	0.00	22.71	0.00 ****
Nonminority female	0.00	18.73	0.00 ****
M/WBE total	0.00	41.44	0.00 ****
Other Information Services (NAICS 5191)			
African American	0.00	17.27	0.00 ****
Hispanic	0.00	0.83	0.00 ****
Asian	0.00	3.39	0.00 ****
Native American	0.00	0.44	0.00
Minority	0.00	21.93	0.00 ****
Nonminority female	0.00	12.82	0.00 ****
M/WBE total	0.00	34.75	0.00 ****
Pharmaceutical and Medicine Manufacturing (NAICS 3254)			
African American	0.00	10.50	0.00 ****
Hispanic	0.00	2.40	0.00
Asian	0.00	9.00	0.00 ****
Native American	0.00	2.03	0.00
Minority	0.00	23.93	0.00 ****
Nonminority female	0.22	12.41	1.79 ****
M/WBE total	0.22	36.34	0.61 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Specialty Trade Contractors (NAICS 2389)			
African American	0.00	7.28	0.00 ****
Hispanic	0.22	8.35	2.66 ****
Asian	0.00	4.22	0.00 ****
Native American	0.00	1.50	0.00 ****
Minority	0.22	21.35	1.04 ****
Nonminority female	0.00	12.10	0.00 ****
M/WBE total	0.22	33.45	0.66 ****
Beverage Manufacturing (NAICS 3121)			
African American	0.00	14.62	0.00 ****
Hispanic	0.00	1.85	0.00 **
Asian	0.00	7.93	0.00 ****
Native American	0.00	0.34	0.00
Minority	0.00	24.74	0.00 ****
Nonminority female	1.89	6.58	28.66
M/WBE total	1.89	31.32	6.02 ****
Consumer Goods Rental (NAICS 5322)			
African American	0.00	12.96	0.00 ****
Hispanic	0.00	3.57	0.00 ****
Asian	0.00	5.15	0.00 ****
Native American	0.00	0.97	0.00 ***
Minority	0.00	22.65	0.00 ****
Nonminority female	0.00	17.55	0.00 ****
M/WBE total	0.00	40.19	0.00 ****
Investigation and Security Services (NAICS 5616)			
African American	6.21	19.25	32.23 *
Hispanic	0.00	1.08	0.00 ****
Asian	0.00	6.35	0.00 ****
Native American	0.00	0.88	0.00 ****
Minority	6.21	27.57	22.51 ****
Nonminority female	0.00	11.87	0.00 ****
M/WBE total	6.21	39.44	15.73 ****
Highway, Street, and Bridge Construction (NAICS 2373)			
African American	1.98	13.59	14.57 ****
Hispanic	0.00	3.09	0.00 ****
Asian	0.00	3.70	0.00 ****
Native American	0.00	0.38	0.00 ****
Minority	1.98	20.75	9.54 ****
Nonminority female	0.00	11.87	0.00 ****
M/WBE total	1.98	32.62	6.07 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Book Stores and News Dealers (NAICS 4512)			
African American	0.00	10.76	0.00 ****
Hispanic	0.00	3.28	0.00 **
Asian	0.00	4.61	0.00 **
Native American	0.00	0.93	0.00
Minority	0.00	19.58	0.00 ****
Nonminority female	0.00	17.70	0.00 ****
M/WBE total	0.00	37.29	0.00 ****
Electronic and Precision Equipment Repair and Maintenance (NAICS 8112)			
African American	0.00	15.29	0.00 ****
Hispanic	0.00	3.98	0.00 ****
Asian	0.00	6.25	0.00 ****
Native American	0.00	0.93	0.00 ****
Minority	0.00	26.44	0.00 ****
Nonminority female	0.00	16.38	0.00 ****
M/WBE total	0.00	42.82	0.00 ****
Traveler Accommodation (NAICS 7211)			
African American	0.00	0.13	0.00
Hispanic	0.00	1.43	0.00 **
Asian	0.00	10.56	0.00 ****
Native American	0.00	3.60	0.00 ****
Minority	0.00	15.72	0.00 ****
Nonminority female	0.00	9.94	0.00 ****
M/WBE total	0.00	25.65	0.00 ****
Poultry and Egg Production (NAICS 1123)			
African American	0.00	14.75	0.00 ****
Hispanic	0.00	3.62	0.00
Asian	0.00	4.77	0.00
Native American	0.00	1.05	0.00
Minority	0.00	24.19	0.00 ****
Nonminority female	0.00	18.06	0.00 ****
M/WBE total	0.00	42.25	0.00 ****
Furniture Stores (NAICS 4421)			
African American	0.00	3.83	0.00 ****
Hispanic	0.00	0.05	0.00
Asian	0.00	0.52	0.00
Native American	0.00	1.19	0.00 ****
Minority	0.00	5.59	0.00 ****
Nonminority female	0.00	14.41	0.00 ****
M/WBE total	0.00	20.00	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Business Support Services (NAICS 5614)			
African American	0.00	19.11	0.00 ****
Hispanic	0.00	4.83	0.00 ****
Asian	0.00	4.34	0.00 ****
Native American	0.00	5.33	0.00 ****
Minority	0.00	33.61	0.00 ****
Nonminority female	9.49	15.31	61.96
M/WBE total	9.49	48.92	19.40 ***
Motor Vehicle Parts Manufacturing (NAICS 3363)			
African American	0.00	8.37	0.00 ****
Hispanic	0.00	2.97	0.00 ****
Asian	0.00	3.86	0.00 ****
Native American	0.00	0.61	0.00
Minority	0.00	15.81	0.00 ****
Nonminority female	0.00	11.27	0.00 ****
M/WBE total	0.00	27.08	0.00 ****
Facilities Support Services (NAICS 5612)			
African American	0.00	26.39	0.00 ****
Hispanic	0.00	3.77	0.00 ****
Asian	0.00	2.52	0.00 ****
Native American	0.00	1.15	0.00 ***
Minority	0.00	33.83	0.00 ****
Nonminority female	0.00	9.10	0.00 ****
M/WBE total	0.00	42.92	0.00 ****
Advertising, Public Relations, and Related Services (NAICS 5418)			
African American	0.00	9.52	0.00 ****
Hispanic	0.00	4.40	0.00 ****
Asian	0.00	2.76	0.00 ****
Native American	0.00	0.57	0.00 ****
Minority	0.00	17.26	0.00 ****
Nonminority female	3.55	24.77	14.32 ****
M/WBE total	3.55	42.03	8.44 ****
Services to Buildings and Dwellings (NAICS 5617)			
African American	1.48	18.67	7.92 ****
Hispanic	0.00	4.94	0.00 ****
Asian	0.00	3.53	0.00 ****
Native American	0.00	1.58	0.00 ****
Minority	1.48	28.71	5.15 ****
Nonminority female	6.78	13.34	50.84 ***
M/WBE total	8.26	42.05	19.64 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511)			
African American	0.00	11.52	0.00 ****
Hispanic	0.00	3.91	0.00 ****
Asian	0.00	5.11	0.00 ****
Native American	0.00	0.88	0.00
Minority	0.00	21.42	0.00 ****
Nonminority female	0.00	16.72	0.00 ****
M/WBE total	0.00	38.14	0.00 ****
Other Fabricated Metal Product Manufacturing (NAICS 3329)			
African American	0.00	0.19	0.00
Hispanic	0.00	1.51	0.00 ****
Asian	0.00	2.42	0.00 ****
Native American	0.00	4.43	0.00 ****
Minority	0.00	8.55	0.00 ****
Nonminority female	0.10	18.69	0.51 ****
M/WBE total	0.10	27.24	0.35 ****
Support Activities for Rail Transportation (NAICS 4882)			
African American	0.00	18.21	0.00 ****
Hispanic	0.00	12.34	0.00 ****
Asian	0.00	3.80	0.00 ****
Native American	0.00	2.17	0.00 ****
Minority	0.00	36.52	0.00 ****
Nonminority female	0.00	13.75	0.00 ****
M/WBE total	0.00	50.27	0.00 ****
Restaurants and Other Eating Places (NAICS 7225)			
African American	0.00	6.70	0.00 ****
Hispanic	0.00	3.27	0.00 ****
Asian	0.00	7.33	0.00 ****
Native American	0.00	0.45	0.00
Minority	0.00	17.76	0.00 ****
Nonminority female	0.00	11.99	0.00 ****
M/WBE total	0.00	29.75	0.00 ****
Automotive Equipment Rental and Leasing (NAICS 5321)			
African American	0.00	6.00	0.00 ****
Hispanic	0.00	2.00	0.00 ****
Asian	0.00	3.78	0.00 ****
Native American	0.00	0.90	0.00 ****
Minority	0.00	12.68	0.00 ****
Nonminority female	0.00	9.00	0.00 ****
M/WBE total	0.00	21.68	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Support Activities for Rail Transportation (NAICS 4882)			
African American	0.00	18.21	0.00 ****
Hispanic	0.00	12.34	0.00 ****
Asian	0.00	3.80	0.00 ****
Native American	0.00	2.17	0.00 ****
Minority	0.00	36.52	0.00 ****
Nonminority female	0.00	13.75	0.00 ****
M/WBE total	0.00	50.27	0.00 ****
Sporting Goods, Hobby, and Musical Instrument Stores (NAICS 4511)			
African American	0.00	11.52	0.00 ****
Hispanic	0.00	3.91	0.00 ****
Asian	0.00	5.11	0.00 ****
Native American	0.00	0.88	0.00 ****
Minority	0.00	21.42	0.00 ****
Nonminority female	0.00	16.73	0.00 ****
M/WBE total	0.00	38.14	0.00 ****
Building Finishing Contractors (NAICS 2383)			
African American	7.92	6.15	
Hispanic	5.48	10.87	50.44 ****
Asian	0.00	3.80	0.00 ****
Native American	0.00	0.08	0.00 ****
Minority	13.41	20.89	64.16 ****
Nonminority female	5.39	11.75	45.86 ****
M/WBE total	18.79	32.64	57.57 ****
Local Messengers and Local Delivery (NAICS 4922)			
African American	0.00	13.55	0.00 ****
Hispanic	0.00	3.26	0.00 ****
Asian	0.00	4.98	0.00 ****
Native American	0.00	0.78	0.00 ****
Minority	0.00	22.57	0.00 ****
Nonminority female	0.00	15.17	0.00 ****
M/WBE total	0.00	37.75	0.00 ****
Poultry and Egg Production (NAICS 1123)			
African American	0.00	14.75	0.00 ****
Hispanic	0.00	3.62	0.00 ****
Asian	0.00	4.77	0.00 ****
Native American	0.00	1.05	0.00 ****
Minority	0.00	24.19	0.00 ****
Nonminority female	0.00	18.06	0.00 ****
M/WBE total	0.00	42.25	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Advertising, Public Relations, and Related Services (NAICS 5418)			
African American	0.00	9.19	0.00 ****
Hispanic	0.00	4.44	0.00 ****
Asian	0.00	2.49	0.00 ****
Native American	0.00	0.52	0.00 ****
Minority	0.00	16.64	0.00 ****
Nonminority female	4.46	25.40	17.57 ****
M/WBE total	4.46	42.04	10.61 ****
Remediation and Other Waste Management Services (NAICS 5629)			
African American	0.00	7.01	0.00 ****
Hispanic	0.00	1.36	0.00 ****
Asian	0.00	0.10	0.00
Native American	0.00	0.06	0.00
Minority	0.00	8.53	0.00 ****
Nonminority female	0.00	14.42	0.00 ****
M/WBE total	0.00	22.95	0.00 ****
Data Processing, Hosting, and Related Services (NAICS 5182)			
African American	0.00	21.33	0.00 ****
Hispanic	0.00	1.91	0.00 ****
Asian	0.00	5.77	0.00 ****
Native American	0.00	0.14	0.00
Minority	0.00	29.16	0.00 ****
Nonminority female	0.00	15.34	0.00 ****
M/WBE total	0.00	44.50	0.00 ****
Specialty Food Stores (NAICS 4452)			
African American	0.00	0.07	0.00
Hispanic	0.00	0.02	0.00
Asian	0.00	1.68	0.00
Native American	0.00	0.00	0.00
Minority	0.00	1.78	0.00
Nonminority female	0.00	21.47	0.00 ****
M/WBE total	0.00	23.25	0.00 ****
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance (NAICS 8113)			
African American	0.00	5.95	0.00 ****
Hispanic	0.00	2.11	0.00 ****
Asian	0.00	0.41	0.00
Native American	0.00	0.01	0.00
Minority	0.00	8.48	0.00 ****
Nonminority female	0.00	3.20	0.00 ****
M/WBE total	0.00	11.68	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Transit and Ground Passenger Transportation (NAICS 4859)			
African American	0.00	29.55	0.00 ****
Hispanic	0.00	4.35	0.00 ****
Asian	0.00	3.85	0.00 ****
Native American	0.00	0.80	0.00
Minority	0.00	38.55	0.00 ****
Nonminority female	0.00	14.10	0.00 ****
M/WBE total	0.00	52.65	0.00 ****
Nonmetallic Mineral Mining and Quarrying (NAICS 2123)			
African American	0.00	3.71	0.00 ****
Hispanic	0.00	1.33	0.00 ****
Asian	0.00	1.72	0.00 ****
Native American	0.00	0.27	0.00
Minority	0.00	7.03	0.00 ****
Nonminority female	0.00	9.48	0.00 ****
M/WBE total	0.00	16.51	0.00 ****
Other Motor Vehicle Dealers (NAICS 4412)			
African American	0.00	11.31	0.00 ****
Hispanic	0.00	3.88	0.00 ****
Asian	0.00	4.95	0.00 ****
Native American	0.00	0.87	0.00
Minority	0.00	21.02	0.00 ****
Nonminority female	3.59	16.53	21.69 ****
M/WBE total	3.59	37.55	9.55 ****
Offices of Other Health Practitioners (NAICS 6213)			
African American	0.00	6.96	0.00 ****
Hispanic	0.00	1.58	0.00 ****
Asian	0.00	2.92	0.00 ****
Native American	0.00	1.97	0.00 ****
Minority	0.00	13.43	0.00 ****
Nonminority female	0.00	22.65	0.00 ****
M/WBE total	0.00	36.08	0.00 ****
Medical and Diagnostic Laboratories (NAICS 6215)			
African American	0.00	9.21	0.00 ****
Hispanic	0.00	2.65	0.00 ****
Asian	0.00	4.44	0.00 ****
Native American	0.00	0.73	0.00
Minority	0.00	17.03	0.00 ****
Nonminority female	2.04	12.44	16.37 ****
M/WBE total	2.04	29.48	6.91 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Steel Product Manufacturing from Purchased Steel (NAICS 3312)			
African American	0.00	8.35	0.00 ****
Hispanic	0.00	2.98	0.00 ****
Asian	0.00	3.87	0.00 ****
Native American	0.00	0.60	0.00
Minority	0.00	15.80	0.00 ****
Nonminority female	0.00	11.03	0.00 ****
M/WBE total	0.00	26.83	0.00 ****
Nonresidential Building Construction (NAICS 2362)			
African American	0.00	12.17	0.00 ****
Hispanic	13.72	6.74	
Asian	0.00	4.46	0.00 ****
Native American	0.00	2.09	0.00 ****
Minority	13.72	25.46	53.91 ****
Nonminority female	0.00	10.01	0.00 ****
M/WBE total	13.72	35.47	38.69 ****
Apparel, Piece Goods, and Notions Merchant Wholesalers (NAICS 4243)			
African American	0.00	13.30	0.00 ****
Hispanic	0.00	3.55	0.00 ****
Asian	0.00	5.43	0.00 ****
Native American	0.00	1.05	0.00
Minority	0.00	23.33	0.00 ****
Nonminority female	20.97	18.60	
M/WBE total	20.97	41.94	50.00 ***
Other Food Manufacturing (NAICS 3119)			
African American	0.00	13.20	0.00 ****
Hispanic	0.00	3.14	0.00 ****
Asian	0.00	4.44	0.00 ****
Native American	0.00	0.71	0.00
Minority	0.00	21.49	0.00 ****
Nonminority female	0.00	11.60	0.00 ****
M/WBE total	0.00	33.10	0.00 ****
Soap, Cleaning Compound, and Toilet Preparation Manufacturing (NAICS 3256)			
African American	0.99	4.57	21.70
Hispanic	0.15	0.75	19.47
Asian	0.00	1.25	0.00
Native American	0.00	0.24	0.00
Minority	1.14	6.80	16.70
Nonminority female	0.00	60.43	0.00 ****
M/WBE total	1.14	67.24	1.69 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Utility System Construction (NAICS 2371)			
African American	0.00	9.16	0.00 ****
Hispanic	0.00	1.81	0.00 ****
Asian	0.00	2.38	0.00 ****
Native American	0.00	1.15	0.00 ****
Minority	0.00	14.49	0.00 ****
Nonminority female	0.00	10.41	0.00 ****
M/WBE total	0.00	24.90	0.00 ****
Boiler, Tank, and Shipping Container Manufacturing (NAICS 3324)			
African American	0.00	8.61	0.00 ****
Hispanic	0.00	3.07	0.00 ****
Asian	0.00	4.00	0.00 ****
Native American	0.00	0.61	0.00
Minority	0.00	16.29	0.00 ****
Nonminority female	0.00	11.37	0.00 ****
M/WBE total	0.00	27.66	0.00 ****
Nondepository Credit Intermediation (NAICS 5222)			
African American	0.00	9.69	0.00 ****
Hispanic	0.00	3.17	0.00 ****
Asian	0.00	3.79	0.00 ****
Native American	0.00	0.63	0.00
Minority	0.00	17.28	0.00 ****
Nonminority female	0.00	11.80	0.00 ****
M/WBE total	0.00	29.08	0.00 ****
Motion Picture and Video Industries (NAICS 5121)			
African American	0.00	14.52	0.00 ****
Hispanic	0.00	3.33	0.00 ****
Asian	0.00	2.18	0.00 ****
Native American	0.00	0.10	0.00
Minority	0.00	20.14	0.00 ****
Nonminority female	0.00	25.68	0.00 ****
M/WBE total	0.00	45.82	0.00 ****
Iron and Steel Mills and Ferroalloy Manufacturing (NAICS 3311)			
African American	0.00	12.67	0.00 ****
Hispanic	0.00	6.33	0.00 ****
Asian	0.00	6.33	0.00 ****
Native American	0.00	0.00	0.00
Minority	0.00	25.34	0.00 ****
Nonminority female	0.00	12.67	0.00 ****
M/WBE total	0.00	38.01	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Vending Machine Operators (NAICS 4542)			
African American	0.00	21.89	0.00 ****
Hispanic	0.00	0.72	0.00
Asian	0.00	4.46	0.00 ****
Native American	0.00	0.01	0.00
Minority	0.00	27.07	0.00 ****
Nonminority female	0.00	7.43	0.00 ****
M/WBE total	0.00	34.49	0.00 ****
Forging and Stamping (NAICS 3321)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	28.89	0.00 ****
M/WBE total	0.00	28.89	0.00 ****
Lawn and Garden Equipment and Supplies Stores (NAICS 4442)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.04	0.00
Asian	0.00	0.83	0.00
Native American	0.00	2.27	0.00 ****
Minority	0.00	3.34	0.00 ****
Nonminority female	0.00	21.37	0.00 ****
M/WBE total	0.00	24.70	0.00 ****
Metalworking Machinery Manufacturing (NAICS 3335)			
African American	0.00	11.37	0.00 ****
Hispanic	0.00	3.73	0.00 ****
Asian	0.00	6.33	0.00 ****
Native American	0.00	1.09	0.00
Minority	0.00	22.52	0.00 ****
Nonminority female	0.66	17.49	3.76 ****
M/WBE total	0.66	40.00	1.64 ****
Other Support Services (NAICS 5619)			
African American	0.00	18.71	0.00 ****
Hispanic	0.00	2.45	0.00 ****
Asian	0.00	2.57	0.00 ****
Native American	0.00	0.02	0.00
Minority	0.00	23.75	0.00 ****
Nonminority female	20.15	28.54	70.57 *
M/WBE total	20.15	52.30	38.52 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Paint, Coating, and Adhesive Manufacturing (NAICS 3255)			
African American	0.00	10.39	0.00 ****
Hispanic	0.00	2.67	0.00 ****
Asian	0.00	4.75	0.00 ****
Native American	0.00	0.78	0.00
Minority	0.00	18.60	0.00 ****
Nonminority female	0.00	19.87	0.00 ****
M/WBE total	0.00	38.47	0.00 ****
Foundation, Structure, and Building Exterior Contractors (NAICS 2381)			
African American	47.57	5.99	
Hispanic	0.54	3.58	15.19 ****
Asian	0.00	0.74	0.00 ****
Native American	0.00	1.60	0.00 ****
Minority	48.11	11.91	
Nonminority female	0.00	14.39	0.00 ****
M/WBE total	48.11	26.30	
Other Professional, Scientific, and Technical Services (NAICS 5419)			
African American	0.00	9.17	0.00 ****
Hispanic	0.00	2.80	0.00 ****
Asian	0.00	4.67	0.00 ****
Native American	0.00	1.29	0.00 ****
Minority	0.00	17.94	0.00 ****
Nonminority female	0.00	18.70	0.00 ****
M/WBE total	0.00	36.64	0.00 ****
Motor Vehicle Body and Trailer Manufacturing (NAICS 3362)			
African American	0.00	10.41	0.00
Hispanic	0.00	5.04	0.00
Asian	0.00	4.64	0.00
Native American	0.00	0.81	0.00
Minority	0.00	20.89	0.00 ****
Nonminority female	0.00	16.33	0.00 ****
M/WBE total	0.00	37.22	0.00 ****
Cable and Other Subscription Programming (NAICS 5152)			
African American	0.00	5.49	0.00 ****
Hispanic	0.00	3.55	0.00 ****
Asian	0.00	4.00	0.00 ****
Native American	0.00	0.06	0.00
Minority	0.00	13.10	0.00 ****
Nonminority female	0.00	3.25	0.00 ****
M/WBE total	0.00	16.35	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Basic Chemical Manufacturing (NAICS 3251)			
African American	0.00	8.80	0.00 ****
Hispanic	0.00	2.98	0.00 ****
Asian	8.54	4.32	
Native American	0.00	0.67	0.00
Minority	8.54	16.77	50.91
Nonminority female	0.00	12.90	0.00 ****
M/WBE total	8.54	29.67	28.78 ****
Offices of Physicians (NAICS 6211)			
African American	0.00	6.70	0.00 ****
Hispanic	0.00	2.32	0.00 ****
Asian	0.00	7.35	0.00 ****
Native American	0.00	3.95	0.00 ****
Minority	0.00	20.32	0.00 ****
Nonminority female	0.00	18.47	0.00 ****
M/WBE total	0.00	38.79	0.00 ****
Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing (NAICS 3253)			
African American	0.00	5.88	0.00
Hispanic	0.00	2.05	0.00
Asian	0.00	3.64	0.00
Native American	0.00	0.55	0.00
Minority	0.00	12.11	0.00 ****
Nonminority female	0.00	7.86	0.00
M/WBE total	0.00	19.97	0.00 ****
Waste Treatment and Disposal (NAICS 5622)			
African American	0.00	8.77	0.00 ****
Hispanic	0.00	2.81	0.00 ****
Asian	0.00	0.97	0.00 ****
Native American	0.00	0.00	
Minority	0.00	12.54	0.00 ****
Nonminority female	0.00	22.25	0.00 ****
M/WBE total	0.00	34.80	0.00 ****
Drycleaning and Laundry Services (NAICS 8123)			
African American	0.00	11.39	0.00 ****
Hispanic	0.00	3.11	0.00 ****
Asian	0.00	12.61	0.00 ****
Native American	0.00	1.04	0.00 ****
Minority	0.00	28.16	0.00 ****
Nonminority female	0.00	17.52	0.00 ****
M/WBE total	0.00	45.68	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Animal Slaughtering and Processing (NAICS 3116)			
African American	0.00	13.43	0.00
Hispanic	0.00	3.69	0.00
Asian	0.00	4.90	0.00
Native American	0.00	0.81	0.00
Minority	0.00	22.83	0.00
Nonminority female	0.00	15.52	0.00
M/WBE total	0.00	38.35	0.00
Other Furniture Related Product Manufacturing (NAICS 3379)			
African American	0.00	10.33	0.00 ****
Hispanic	0.00	3.69	0.00 ****
Asian	0.00	4.80	0.00 ****
Native American	0.00	0.74	0.00
Minority	0.00	19.55	0.00 ****
Nonminority female	0.00	13.65	0.00 ****
M/WBE total	0.00	33.20	0.00 ****
Support Activities for Road Transportation (NAICS 4884)			
African American	0.00	6.71	0.00 ****
Hispanic	0.00	9.01	0.00 ****
Asian	0.00	0.15	0.00
Native American	0.00	1.78	0.00 ****
Minority	0.00	17.65	0.00 ****
Nonminority female	0.00	16.46	0.00 ****
M/WBE total	0.00	34.11	0.00 ****
Converted Paper Product Manufacturing (NAICS 3222)			
African American	0.00	15.00	0.00 ****
Hispanic	0.00	2.69	0.00
Asian	0.00	3.61	0.00 ****
Native American	0.00	1.06	0.00
Minority	0.00	22.36	0.00 ****
Nonminority female	0.00	17.52	0.00 ****
M/WBE total	0.00	39.88	0.00 ****
Activities Related to Real Estate (NAICS 5313)			
African American	0.00	4.29	0.00 ****
Hispanic	0.00	1.69	0.00
Asian	0.00	1.66	0.00
Native American	0.00	0.05	0.00
Minority	0.00	7.68	0.00 ****
Nonminority female	0.00	20.64	0.00 ****
M/WBE total	0.00	28.32	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Office Furniture (including Fixtures) Manufacturing (NAICS 3372)			
African American	0.00	18.41	0.00 ****
Hispanic	0.00	0.06	0.00
Asian	0.00	0.13	0.00
Native American	0.00	0.13	0.00
Minority	0.00	18.73	0.00 ****
Nonminority female	0.00	14.64	0.00 ****
M/WBE total	0.00	33.38	0.00 ****
Other Heavy and Civil Engineering Construction (NAICS 2379)			
African American	0.00	8.76	0.00 ****
Hispanic	0.00	1.99	0.00 ****
Asian	0.00	3.41	0.00 ****
Native American	0.00	0.45	0.00 ****
Minority	0.00	14.61	0.00 ****
Nonminority female	0.00	10.28	0.00 ****
M/WBE total	0.00	24.89	0.00 ****
Spring and Wire Product Manufacturing (NAICS 3326)			
African American	0.00	10.47	0.00 ****
Hispanic	0.00	3.51	0.00 ****
Asian	0.14	4.61	2.98 *
Native American	0.00	0.83	0.00
Minority	0.14	19.41	0.71 ****
Nonminority female	8.54	15.87	53.80
M/WBE total	8.68	35.28	24.59 ****
Outpatient Care Centers (NAICS 6214)			
African American	0.00	0.00	
Hispanic	0.00	0.88	0.00
Asian	0.00	0.88	0.00
Native American	0.00	0.00	
Minority	0.00	1.77	0.00
Nonminority female	0.00	0.00	
M/WBE total	0.00	1.77	0.00
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing (NAICS 3327)			
African American	0.00	1.09	0.00 ****
Hispanic	5.80	2.37	
Asian	0.00	0.01	0.00
Native American	0.00	3.14	0.00 ****
Minority	5.80	6.61	87.68
Nonminority female	0.00	6.87	0.00 ****
M/WBE total	5.80	13.48	43.01

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Freight Transportation Arrangement (NAICS 4885)			
African American	0.00	17.82	0.00 ****
Hispanic	0.00	4.09	0.00 ****
Asian	0.00	7.34	0.00 ****
Native American	0.00	0.18	0.00
Minority	0.00	29.44	0.00 ****
Nonminority female	0.00	11.67	0.00 ****
M/WBE total	0.00	41.11	0.00 ****
Aquaculture (NAICS 1125)			
African American	0.00	11.58	0.00 ****
Hispanic	0.00	3.90	0.00
Asian	0.00	5.12	0.00
Native American	0.00	0.91	0.00
Minority	0.00	21.51	0.00 ****
Nonminority female	0.00	17.41	0.00 ****
M/WBE total	0.00	38.92	0.00 ****
Farm Product Raw Material Merchant Wholesalers (NAICS 4245)			
African American	0.00	13.36	0.00 ****
Hispanic	0.00	3.79	0.00
Asian	0.00	5.01	0.00
Native American	0.00	0.89	0.00
Minority	0.00	23.06	0.00 ****
Nonminority female	80.08	16.57	
M/WBE total	80.08	39.63	
Rubber Product Manufacturing (NAICS 3262)			
African American	0.00	13.04	0.00 ****
Hispanic	0.00	3.32	0.00
Asian	0.00	4.41	0.00 ****
Native American	0.00	0.63	0.00
Minority	0.00	21.40	0.00 ****
Nonminority female	0.00	12.03	0.00 ****
M/WBE total	0.00	33.43	0.00 ****
Depository Credit Intermediation (NAICS 5221)			
African American	0.00	0.19	0.00
Hispanic	0.00	0.00	0.00
Asian	0.00	0.42	0.00
Native American	0.00	0.00	0.00
Minority	0.00	0.61	0.00
Nonminority female	0.00	0.44	0.00
M/WBE total	0.00	1.06	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
General Freight Trucking (NAICS 4841)			
African American	0.00	14.27	0.00 ****
Hispanic	0.00	4.15	0.00 ****
Asian	0.00	5.16	0.00 ****
Native American	0.00	0.85	0.00
Minority	0.00	24.42	0.00 ****
Nonminority female	51.75	15.91	
M/WBE total	51.75	40.33	
Audio and Video Equipment Manufacturing (NAICS 3343)			
African American	0.00	15.37	0.00 ****
Hispanic	0.00	3.02	0.00 ****
Asian	0.00	6.87	0.00 ****
Native American	0.00	0.86	0.00
Minority	0.00	26.11	0.00 ****
Nonminority female	0.00	16.75	0.00 ****
M/WBE total	0.00	42.86	0.00 ****
Fruit and Vegetable Preserving and Specialty Food Manufacturing (NAICS 3114)			
African American	0.00	0.00	
Hispanic	0.00	0.00	
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	0.00	
Nonminority female	0.00	0.00	
M/WBE total	0.00	0.00	
Other Telecommunications (NAICS 5179)			
African American	0.00	13.02	0.00 ****
Hispanic	0.00	3.91	0.00 ****
Asian	0.00	5.24	0.00 ****
Native American	0.00	0.92	0.00
Minority	0.00	23.09	0.00 ****
Nonminority female	0.00	16.58	0.00 ****
M/WBE total	0.00	39.66	0.00 ****
Agencies, Brokerages, and Other Insurance Related Activities (NAICS 5242)			
African American	0.00	8.56	0.00 ****
Hispanic	0.00	0.75	0.00 ****
Asian	0.00	1.35	0.00 ****
Native American	0.14	0.07	
Minority	0.14	10.73	1.26 ****
Nonminority female	0.00	14.61	0.00 ****
M/WBE total	0.14	25.34	0.53 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Wood Product Manufacturing (NAICS 3219)			
African American	0.00	11.67	0.00 ****
Hispanic	0.00	3.73	0.00 ****
Asian	0.00	4.95	0.00 ****
Native American	0.00	0.98	0.00 ****
Minority	0.00	21.33	0.00 ****
Nonminority female	41.36	19.25	
M/WBE total	41.36	40.58	
Cement and Concrete Product Manufacturing (NAICS 3273)			
African American	0.00	2.25	0.00 ****
Hispanic	0.00	2.66	0.00 ****
Asian	0.00	0.00	
Native American	0.00	0.00	
Minority	0.00	4.91	0.00 ****
Nonminority female	0.00	13.30	0.00 ****
M/WBE total	0.00	18.20	0.00 ****
Travel Arrangement and Reservation Services (NAICS 5615)			
African American	0.00	12.80	0.00 ****
Hispanic	0.00	3.83	0.00 ****
Asian	0.00	5.23	0.00 ****
Native American	0.00	1.02	0.00
Minority	0.00	22.89	0.00 ****
Nonminority female	14.57	18.97	76.79
M/WBE total	14.57	41.86	34.81
Lime and Gypsum Product Manufacturing (NAICS 3274)			
African American	0.00	7.65	0.00
Hispanic	0.00	2.73	0.00
Asian	0.00	3.55	0.00
Native American	0.00	0.55	0.00
Minority	0.00	14.48	0.00
Nonminority female	0.00	10.11	0.00
M/WBE total	0.00	24.59	0.00
Support Activities for Animal Production (NAICS 1152)			
African American	0.00	11.87	0.00
Hispanic	0.00	3.48	0.00
Asian	0.00	4.86	0.00
Native American	0.00	1.10	0.00
Minority	0.00	21.31	0.00 ****
Nonminority female	0.00	21.83	0.00 ****
M/WBE total	0.00	43.14	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Legal Services (NAICS 5411)			
African American	52.37	5.16	
Hispanic	0.00	3.53	0.00 ****
Asian	0.00	0.26	0.00
Native American	0.00	0.04	0.00
Minority	52.37	9.00	
Nonminority female	34.86	21.42	
M/WBE total	87.23	30.42	
Educational Support Services (NAICS 6117)			
African American	0.00	25.75	0.00 ****
Hispanic	0.00	0.71	0.00
Asian	0.00	3.31	0.00 ****
Native American	0.00	2.37	0.00 ****
Minority	0.00	32.14	0.00 ****
Nonminority female	0.00	10.40	0.00 ****
M/WBE total	0.00	42.54	0.00 ****
Metal and Mineral (except Petroleum) Merchant Wholesalers (NAICS 4235)			
African American	0.00	10.28	0.00 ****
Hispanic	0.00	0.06	0.00
Asian	0.00	7.17	0.00 ****
Native American	0.00	0.04	0.00
Minority	0.00	17.55	0.00 ****
Nonminority female	63.51	18.00	
M/WBE total	63.51	35.55	
Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing (NAICS 3252)			
African American	0.00	6.87	0.00 ****
Hispanic	0.00	0.04	0.00
Asian	0.00	0.07	0.00
Native American	0.00	0.07	0.00
Minority	0.00	7.05	0.00 ****
Nonminority female	0.00	8.03	0.00 ****
M/WBE total	0.00	15.08	0.00 ****
Offices of Dentists (NAICS 6212)			
African American	0.00	6.41	0.00 *
Hispanic	0.00	2.30	0.00
Asian	0.00	10.10	0.00 ****
Native American	0.00	1.80	0.00
Minority	0.00	20.61	0.00 ****
Nonminority female	0.00	17.54	0.00 ****
M/WBE total	0.00	38.15	0.00 ****

Appendix E. Detailed Utilization, Availability & Disparity Tables

NAICS Industry Group & M/WBE Type	Utilization (%)	Availability (%)	Disparity Ratio
Other Amusement and Recreation Industries (NAICS 7139)			
African American	0.00	12.46	0.00 ****
Hispanic	0.00	3.80	0.00 ****
Asian	0.00	5.05	0.00 ****
Native American	0.00	0.95	0.00
Minority	0.00	22.26	0.00 ****
Nonminority female	0.00	18.00	0.00 ****
M/WBE total	0.00	40.26	0.00 ****

Source and Notes: See Table 6.4.

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